



**VORTEX SHEDDING BY BLUNT/BLUFF BODIES AT
HIGH REYNOLDS NUMBERS**

**Volume IV of IV
Rectangles**

B. R. Merrill

March 1993

Final Report



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**PHILLIPS LABORATORY
Directorate of Plans and Programs
AIR FORCE MATERIEL COMMAND
KIRTLAND AIR FORCE BASE, NM 87117-5776**

This final report was prepared by the Phillips Laboratory, Kirtland Air Force Base, New Mexico, under Job Order 9993XX21. The Laboratory Project Officer-in-Charge was Bruce R. Merrill (XPXS).

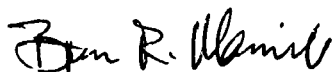
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This report has been reviewed and is approved for publication.



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13. ABSTRACT (Maximum 200 words)

This report documents the analysis of vortex shedding data collected by the Phillips Laboratory at the U.S. Air Force Academy Subsonic Wind Tunnel facility. The analysis is primarily of the power spectrum of the vortex shedding as seen in the force and moment coefficient power spectra. The shedding frequencies as seen in the power spectra are used to analyze for the Strouhal number. The analysis suggests that shape and orientation in the wind field have an effect on the shedding of vortices.

14. SUBJECT TERMS

Vortex shedding, Vortices, Aerodynamic forces, Coefficients,
Drag, Strouhal number

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DATA REPORT

SHAPE:	RECTANGLE
DECLINATION [THETA (degrees)]:	0
DIMENSIONS [LxWxH (in)]:	3.9 x 7.9 x 7.76
WEIGHT (gm):	691.1
TORSION FREQUENCY (Hz):	69
LATERAL (SIDE BEND) FREQUENCY (Hz):	81
NORMAL (AFT BEND) FREQUENCY (Hz):	86
AZIMUTHS (degrees):	0, 30, 45, 60, 90

GRAPH CORRECTIONS:

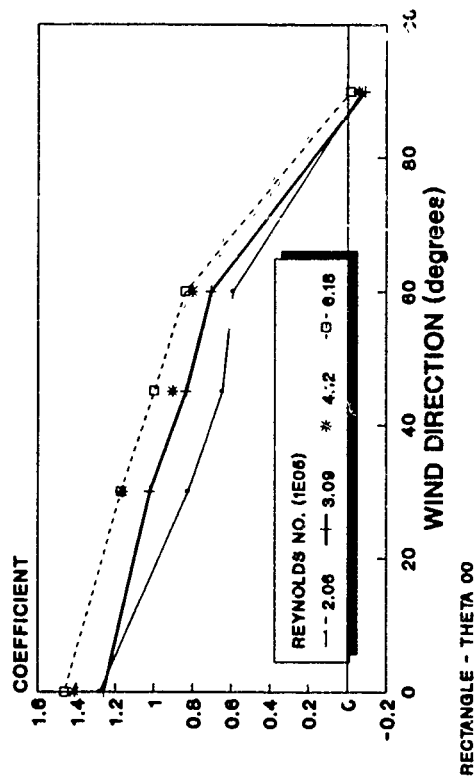
- The mean value of the **ROLL** moment coefficients should be divided by 12.
- The PSD and PSD Integral values of the **ROLL** moment coefficients should be divided by 144.

OBSERVATIONS:

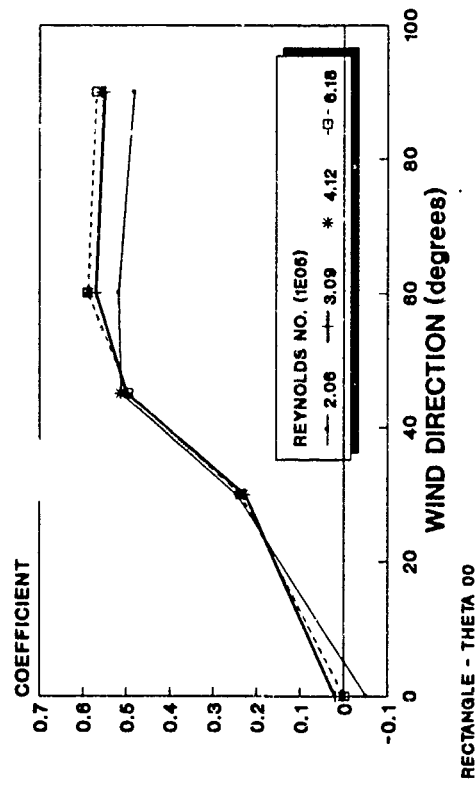
- A very good shed is observed in the lateral and roll data at 0 degrees azimuth. The shed is largely single frequency in nature.
- A shed can be seen in the normal moment data at 90 degrees azimuth. This shed is most easily seen in the 60 and 90 ft/sec wind speeds. These sheds occur at nearly the same frequency as the sheds at 0 degrees azimuth for the same wind speeds. This is not expected since the cross-sectional length changes by a factor of two in going from 0 degrees to 90 degrees azimuth. If the Strouhal number were constant, the shedding frequencies would be expected to change by a factor of two and this is not observed here.

- 15.176 Hz spike is seen in the throughout the data.

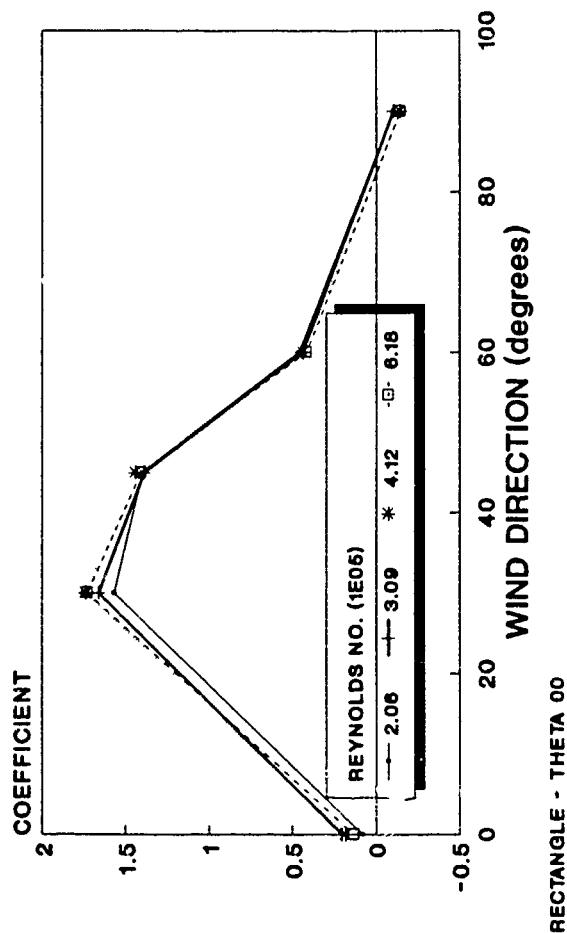
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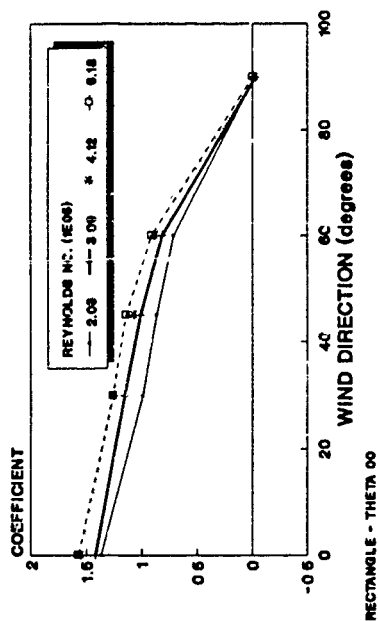
MEAN FORCE COEFFICIENT LATERAL DIRECTION



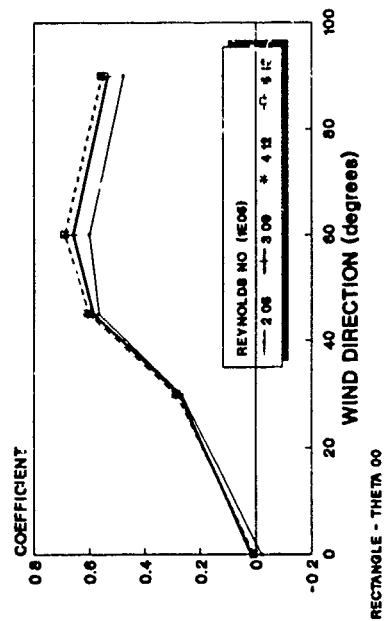
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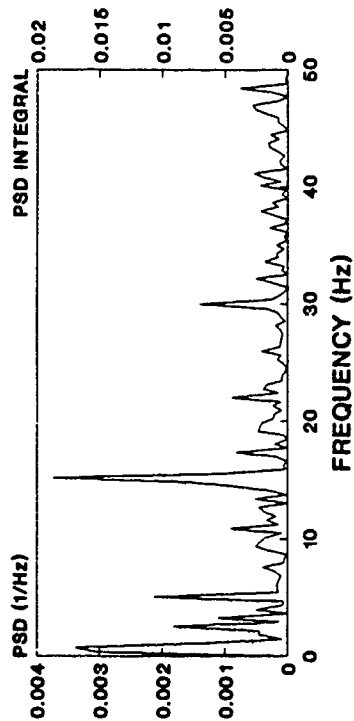
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MEAN MOMENT COEFFICIENT LATERAL DIRECTION

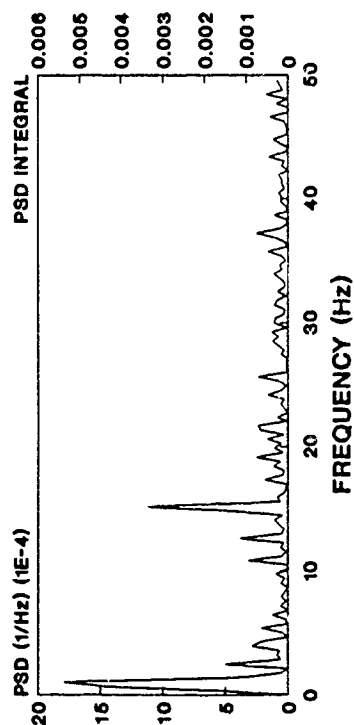


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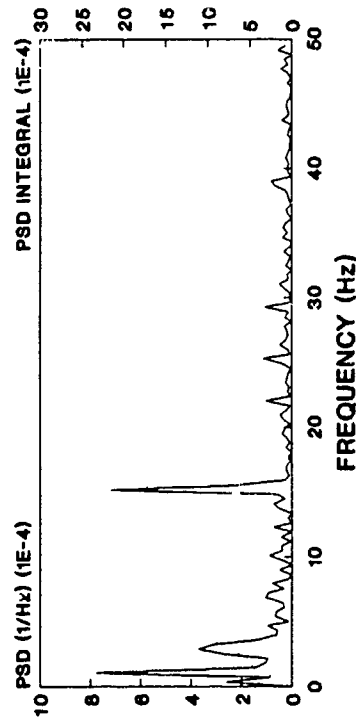
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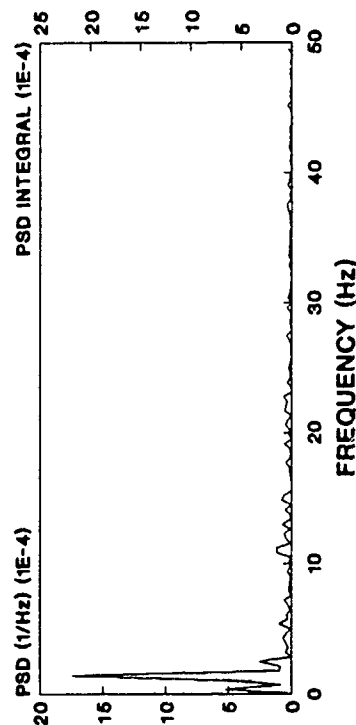
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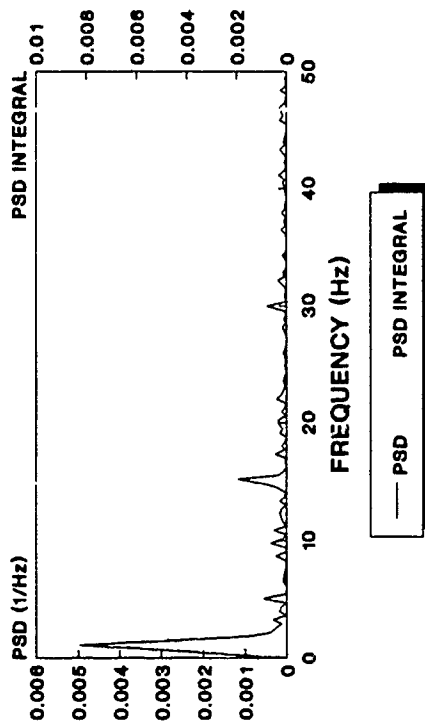
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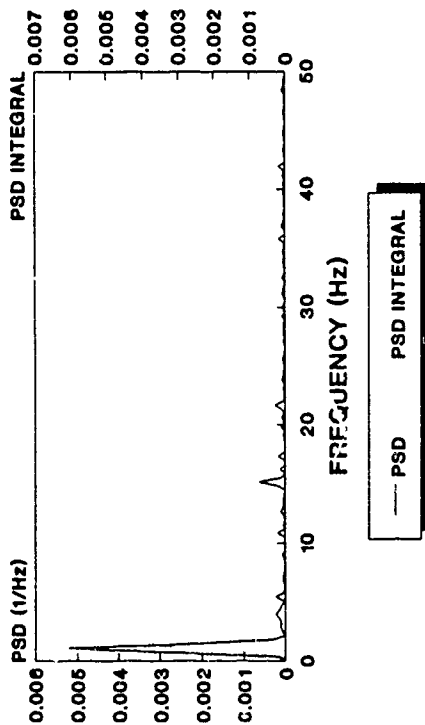
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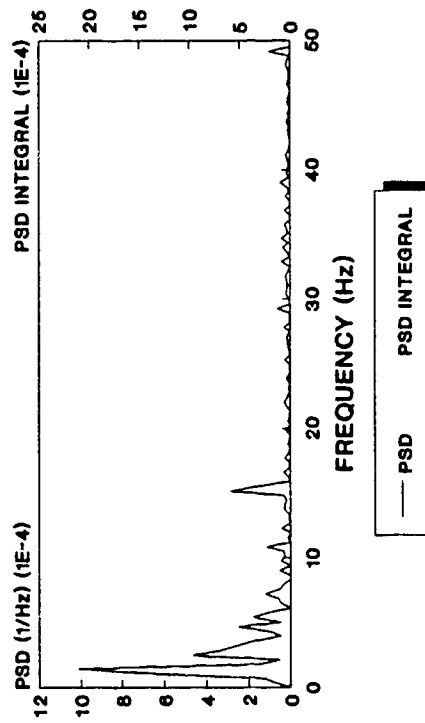
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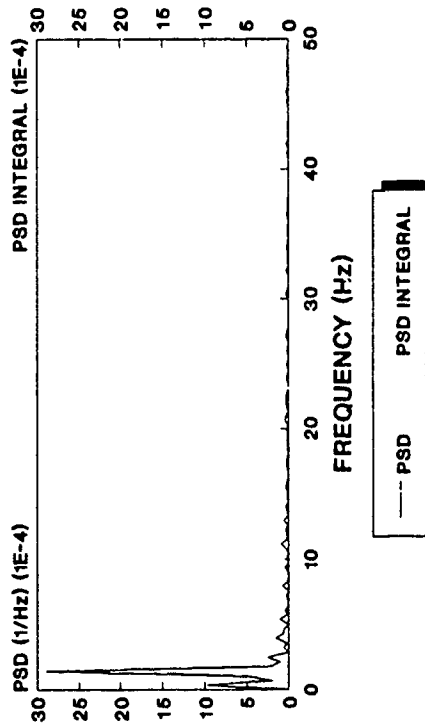
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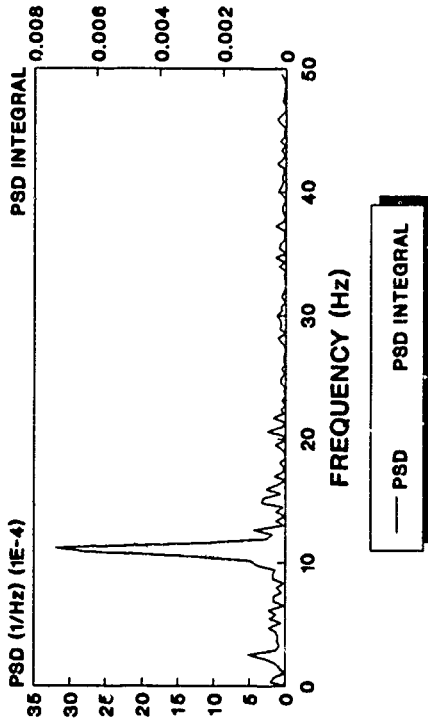
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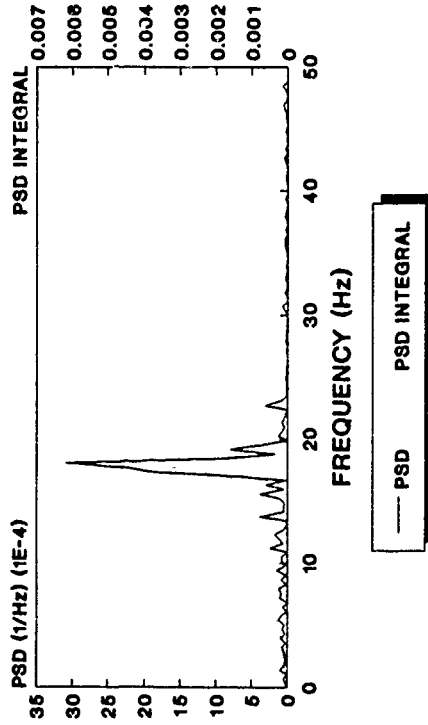
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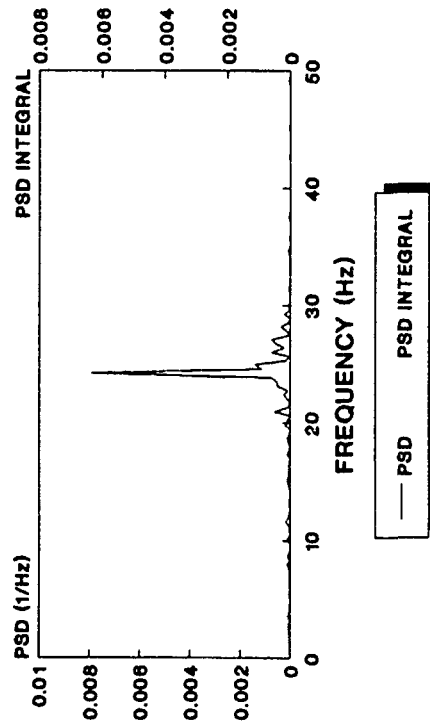
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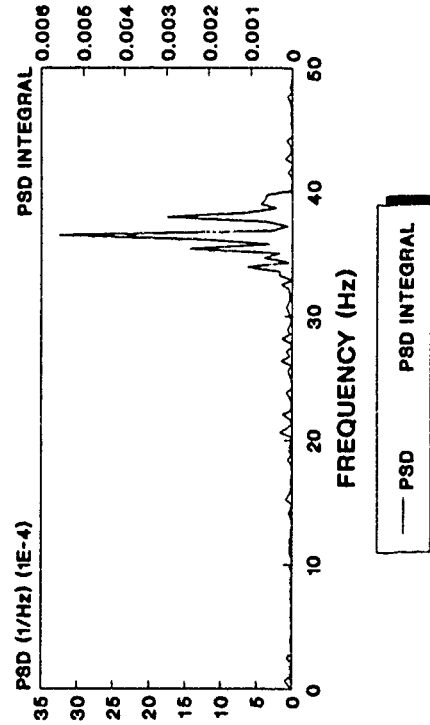
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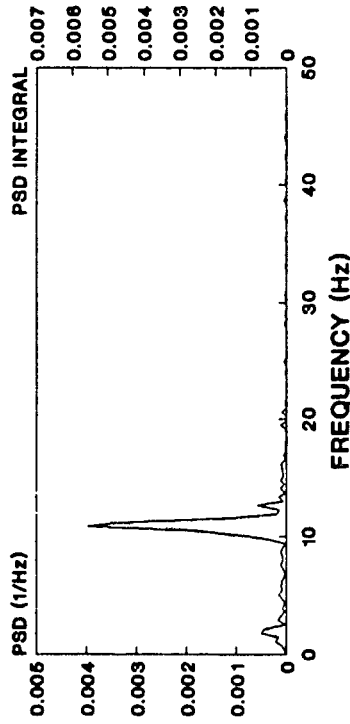
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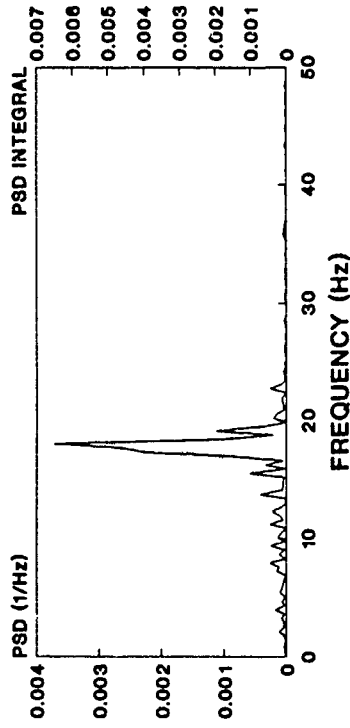
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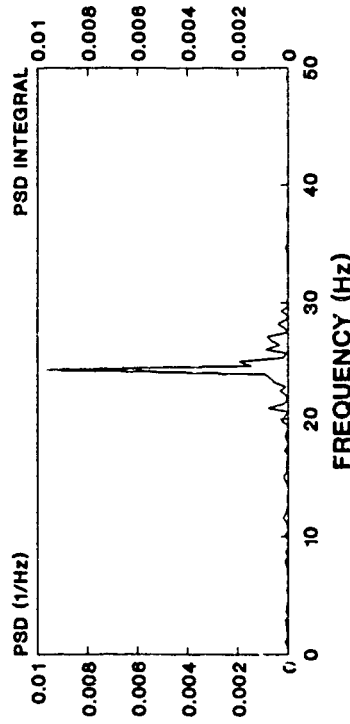
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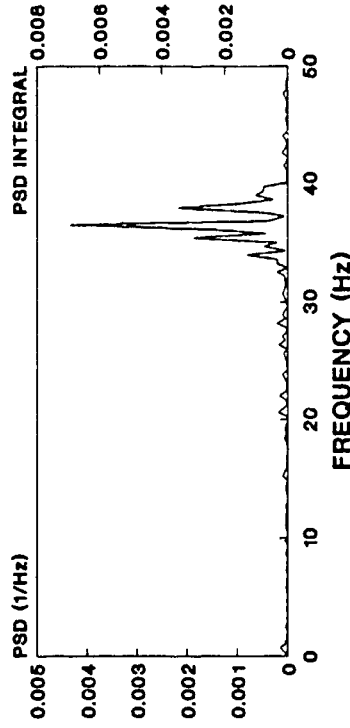
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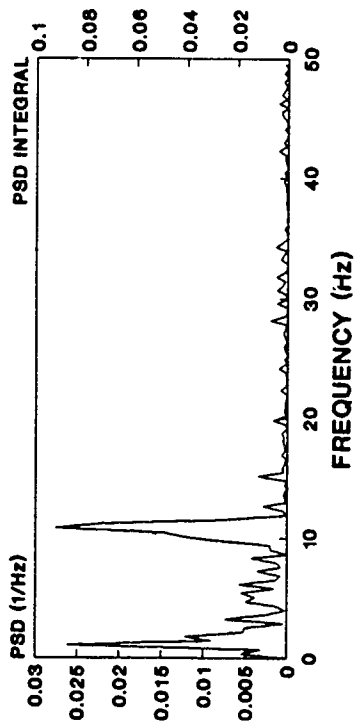
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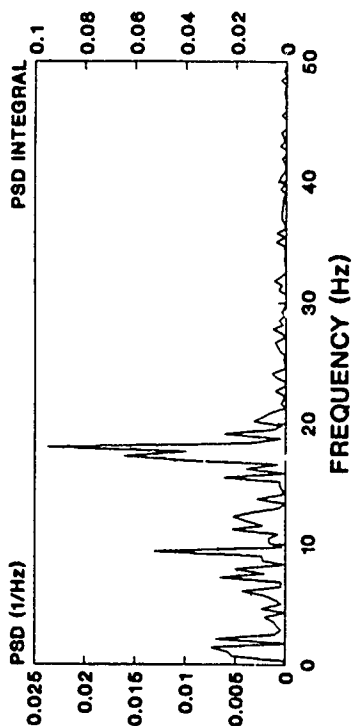
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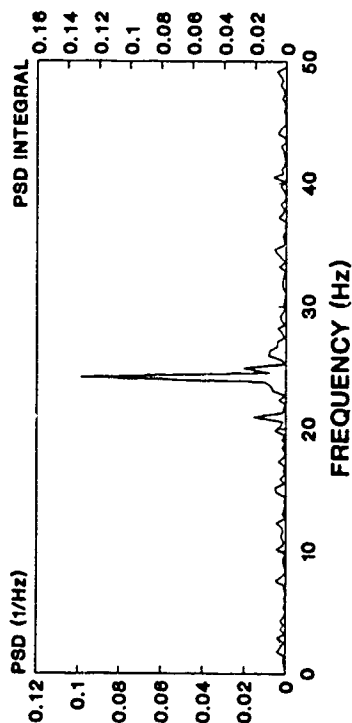
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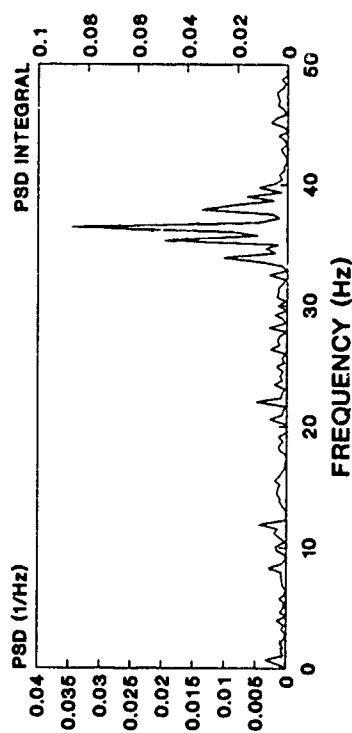
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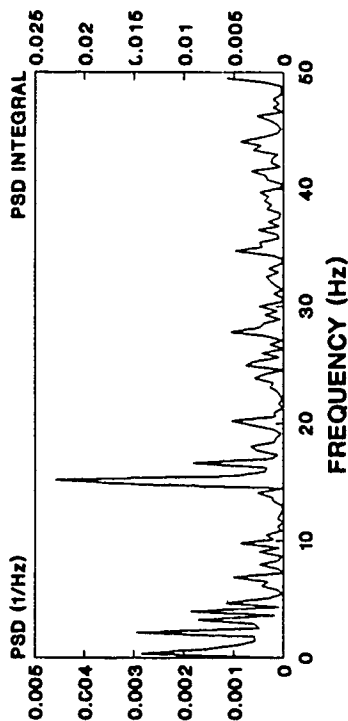
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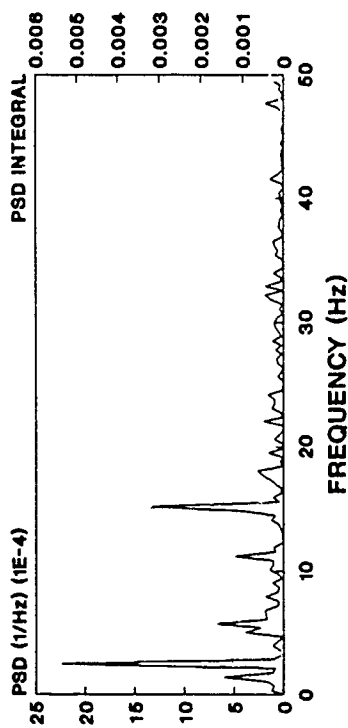
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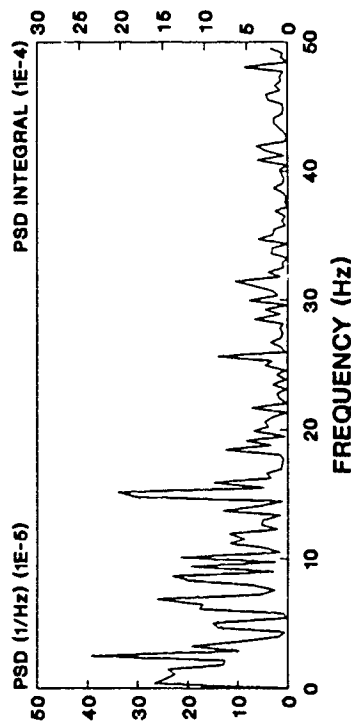
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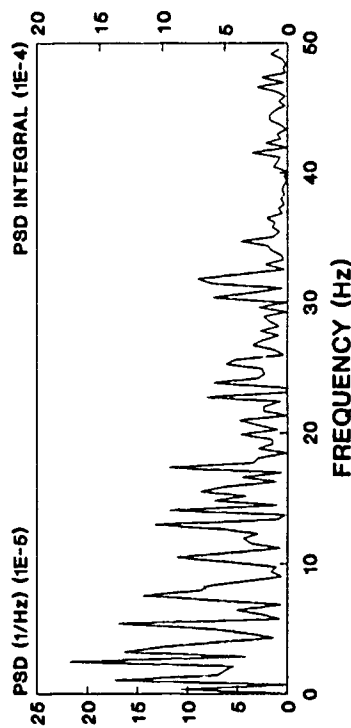
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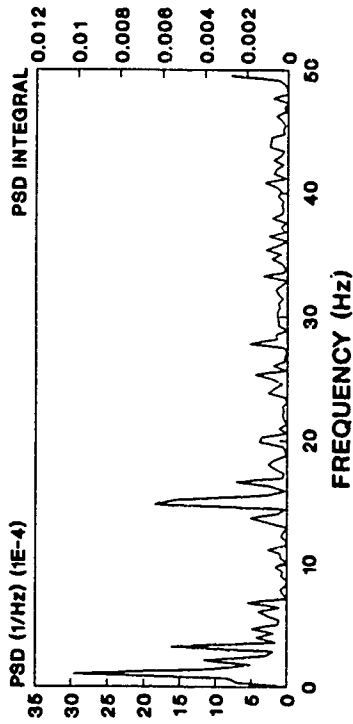
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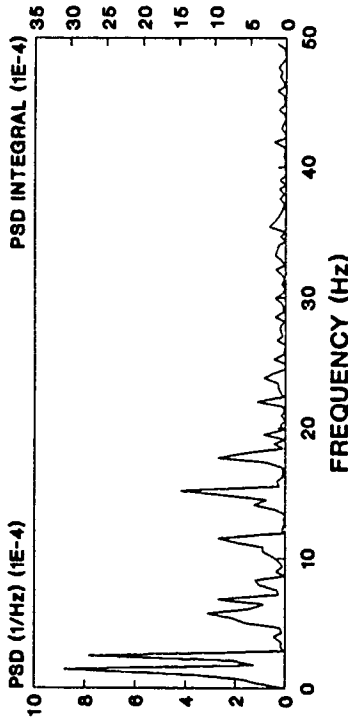
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MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



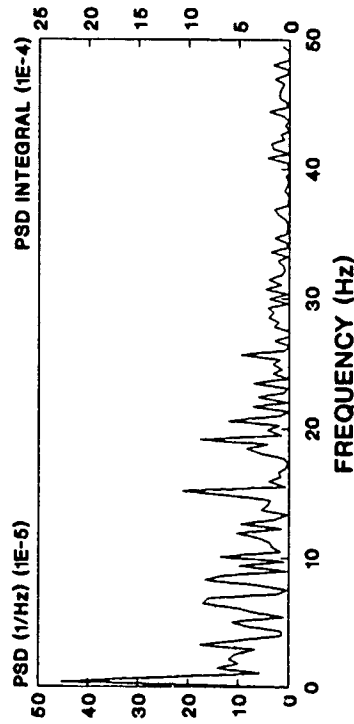
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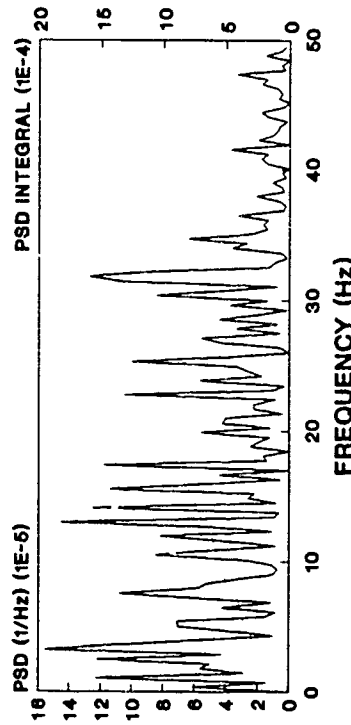
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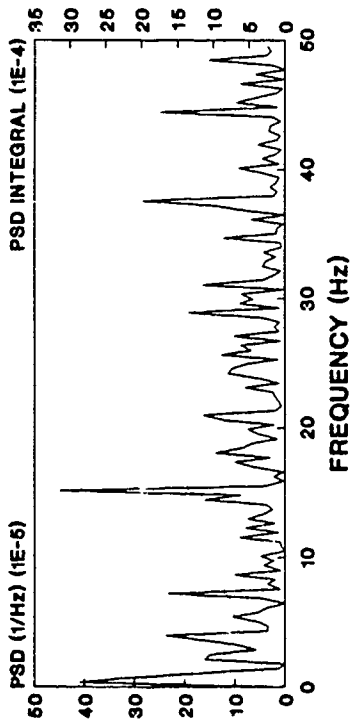
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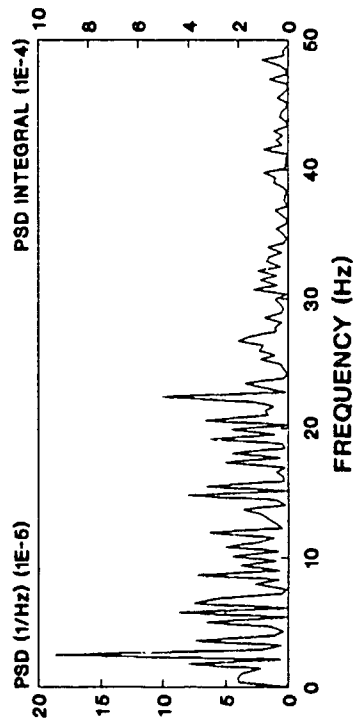
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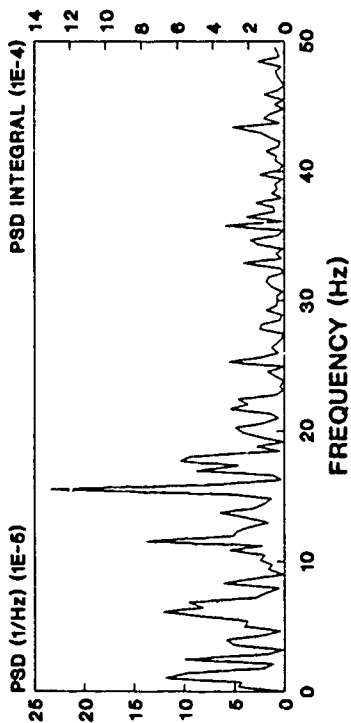
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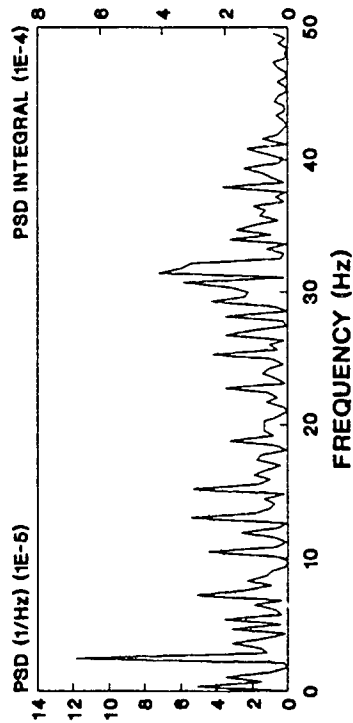
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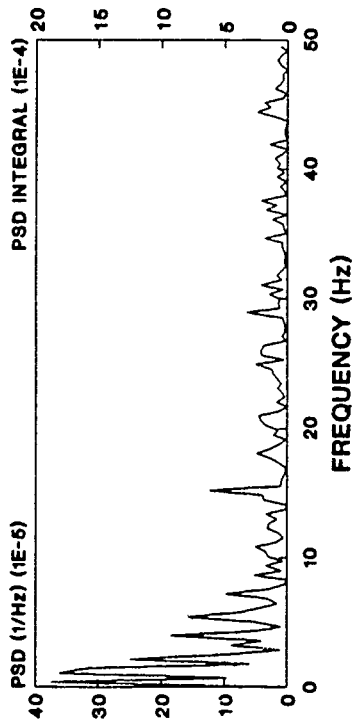
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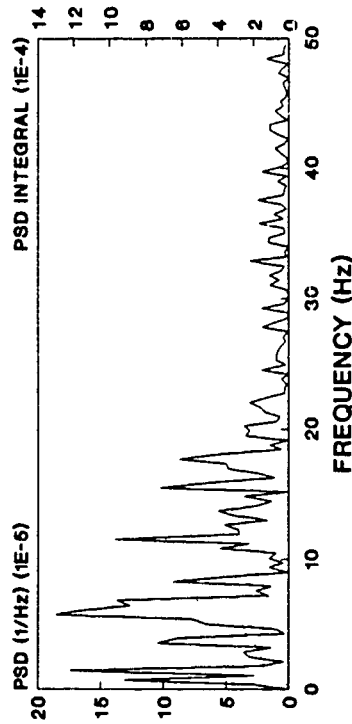
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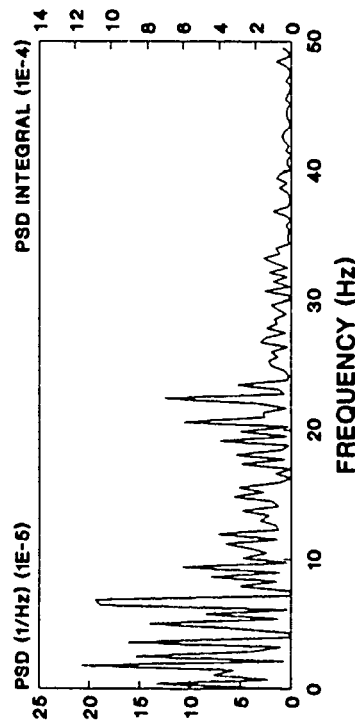
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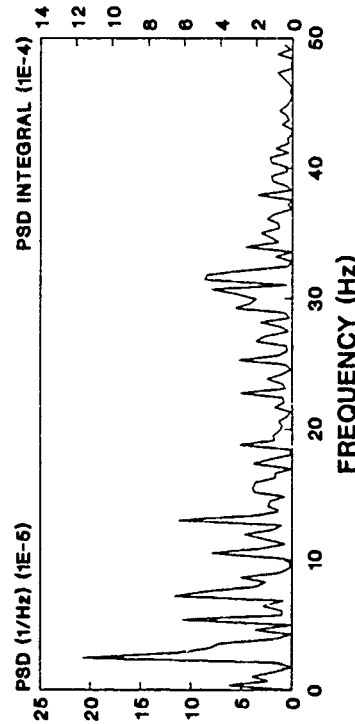
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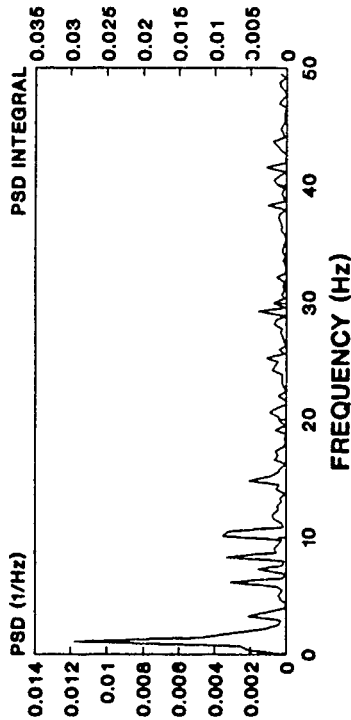
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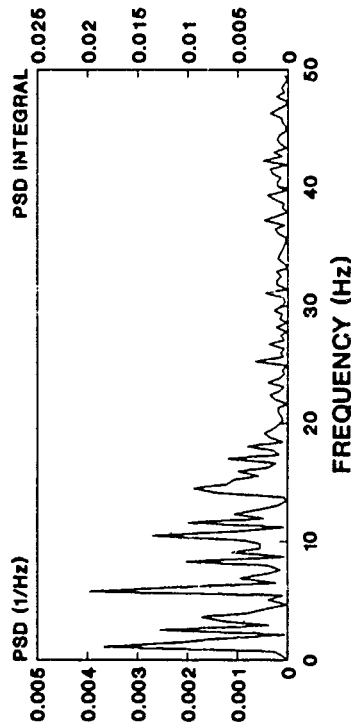
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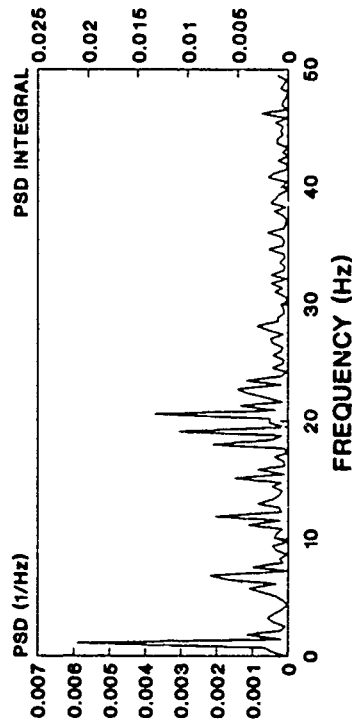
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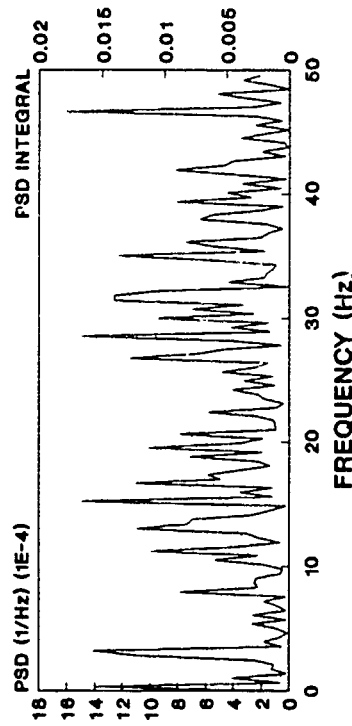
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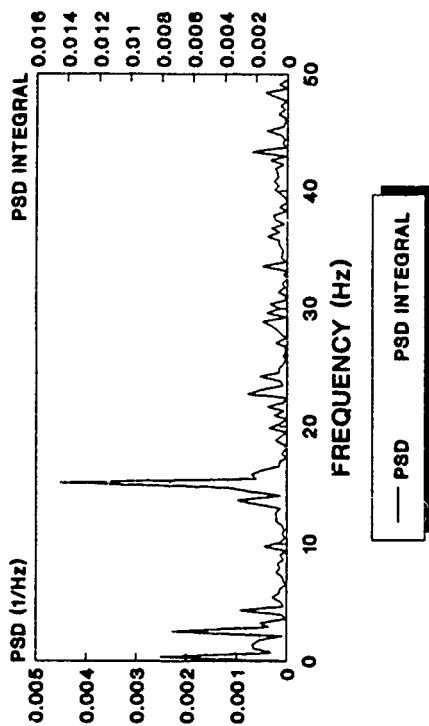
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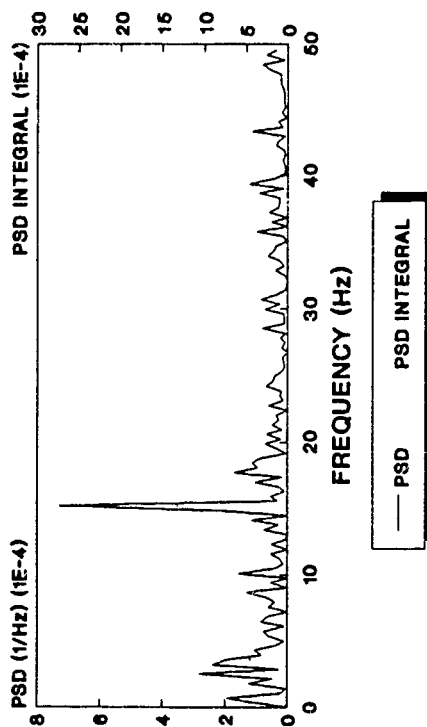
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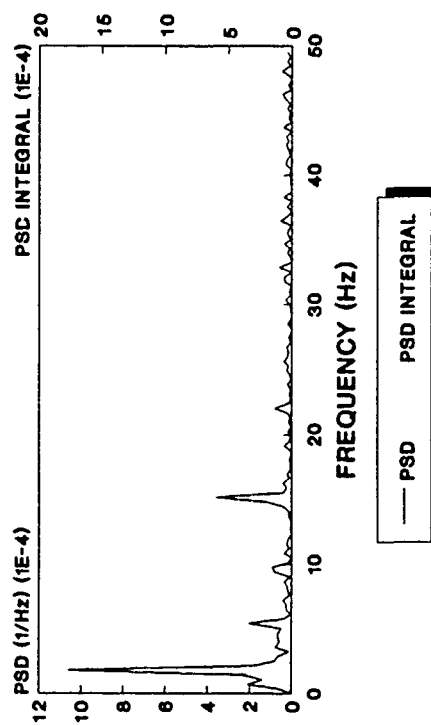
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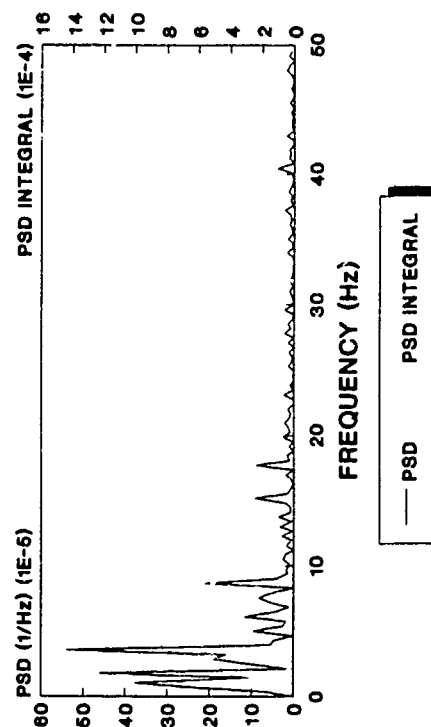
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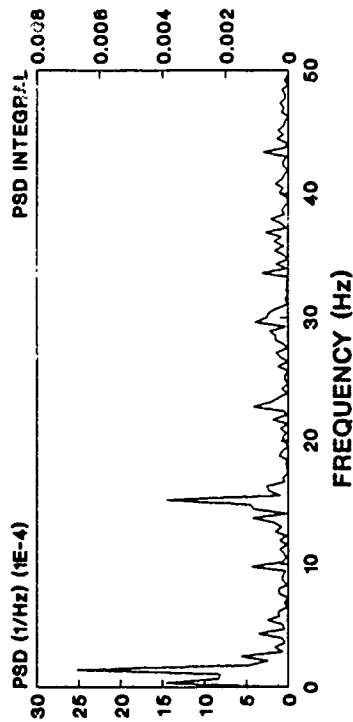
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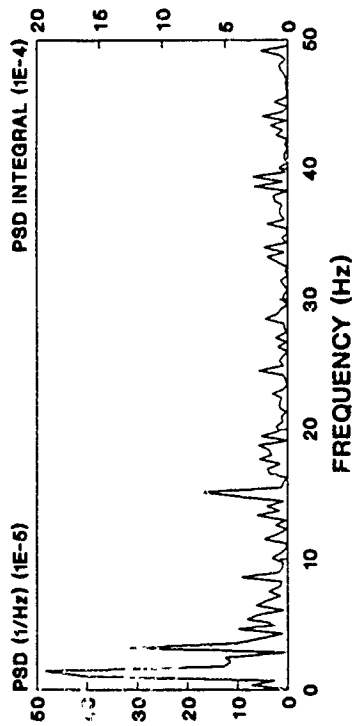
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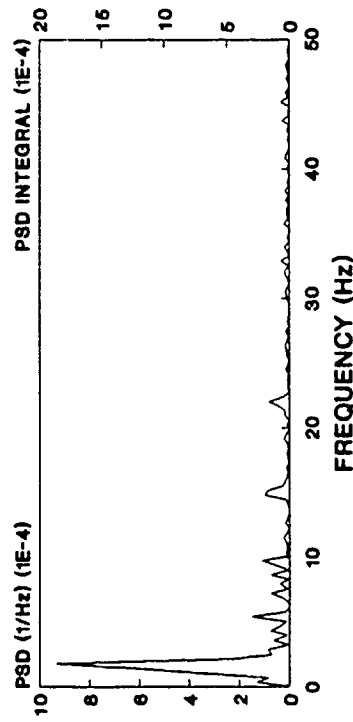
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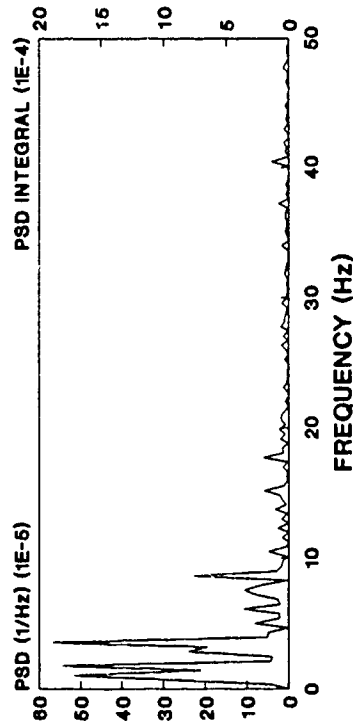
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MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



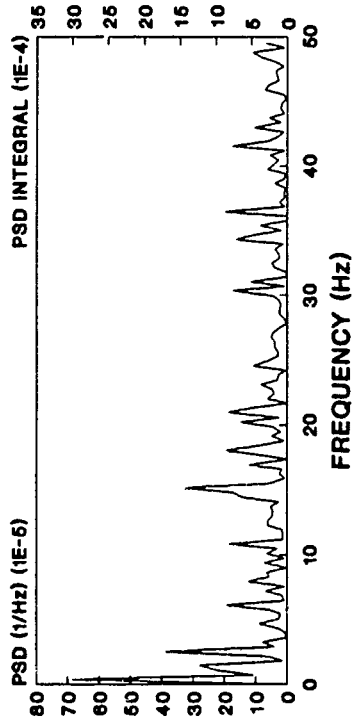
RECTANGLE - HT 7.76 - THETA 00 - AZ 045

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



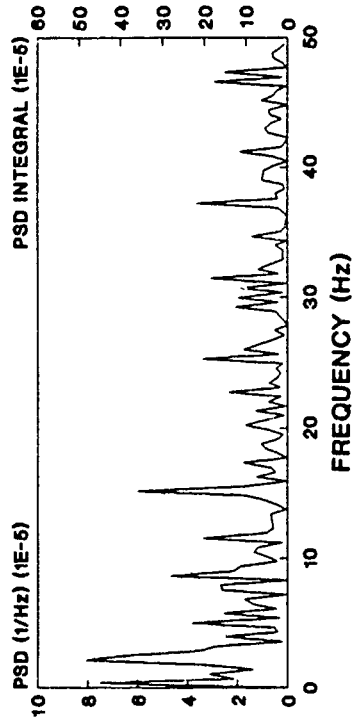
RECTANGLE - HT 7.76 - THETA 00 - AZ 045

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



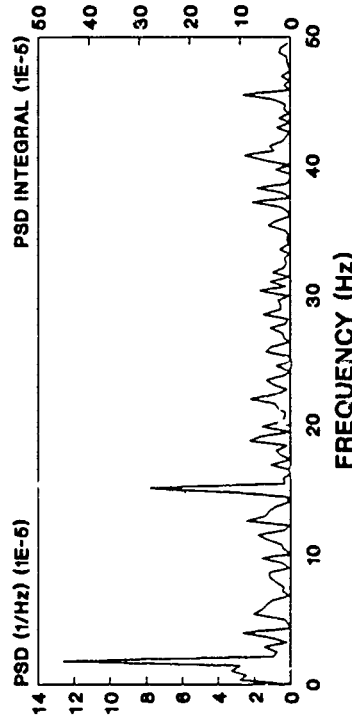
RECTANGLE - HT 7.76 - THETA 00 - AZ 045

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



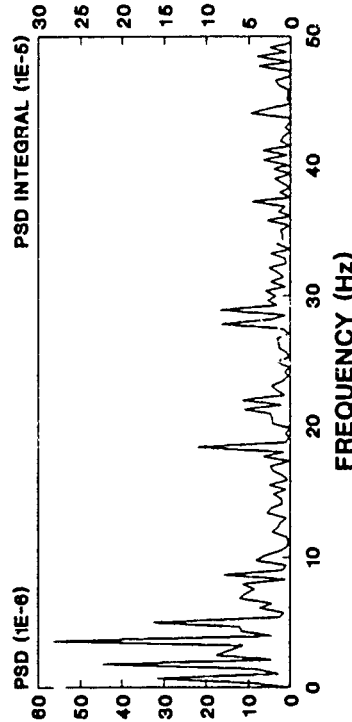
RECTANGLE - HT 7.76 - THETA 00 - AZ 045

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



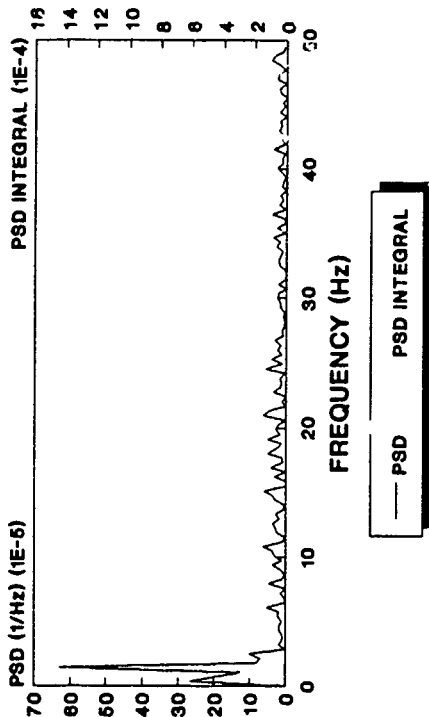
RECTANGLE - HT 7.76 - THETA 00 - AZ 045

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



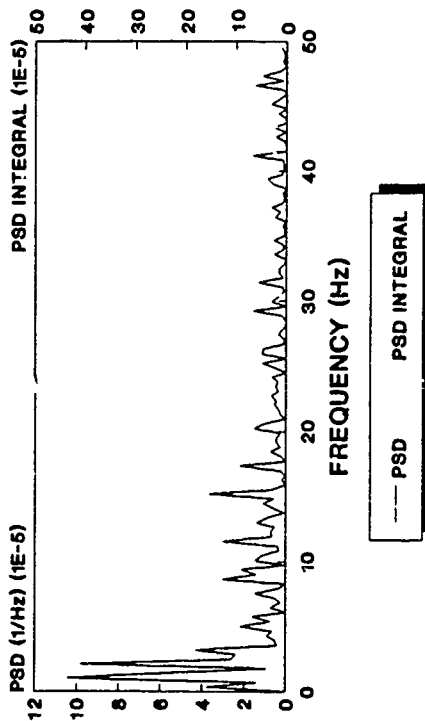
RECTANGLE - HT 7.76 - THETA 00 - AZ 045

MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



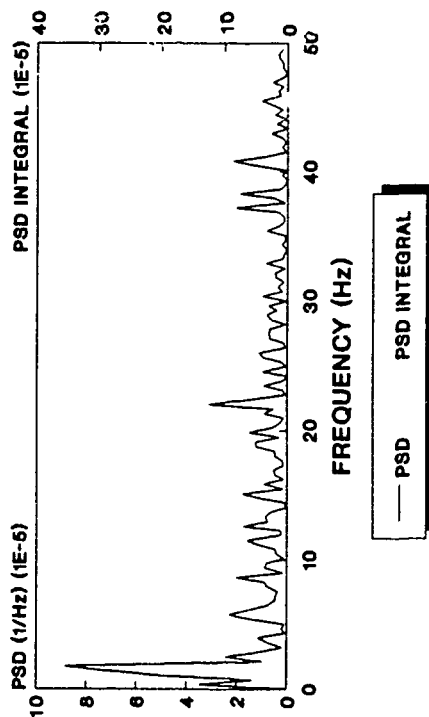
RECTANGLE - HT 7.76 - THETA 00 - AZ 046

MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



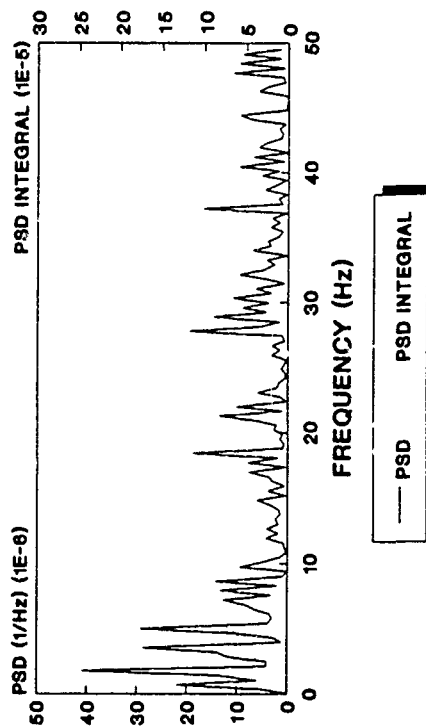
RECTANGLE - HT 7.76 - THETA 00 - AZ 046

MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



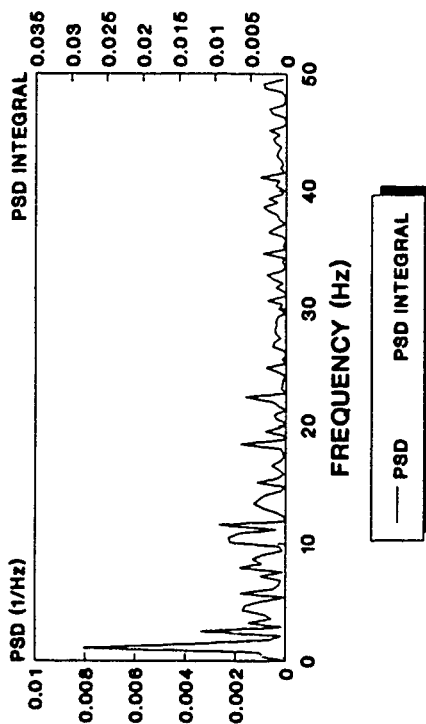
RECTANGLE - HT 7.76 - THETA 00 - AZ 046

MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



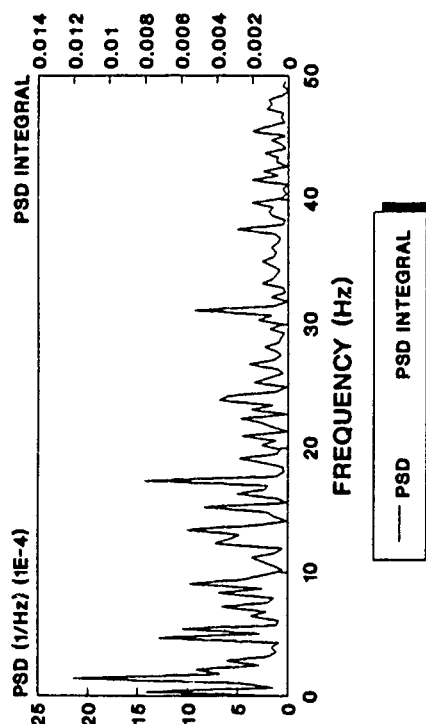
RECTANGLE - HT 7.76 - THETA 00 - AZ 046

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



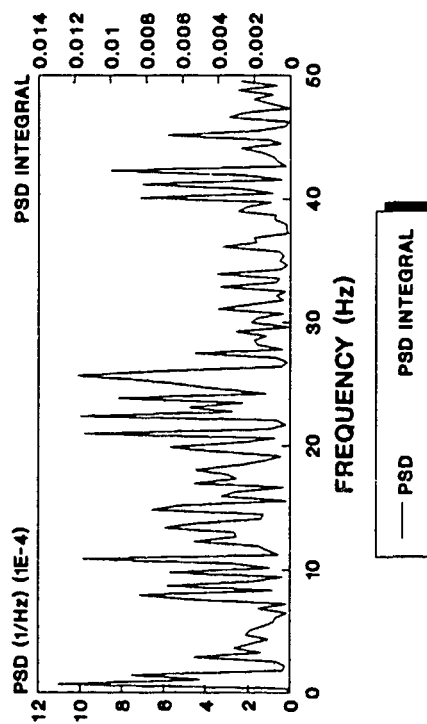
RECTANGLE - HT 7.76 - THETA 00 - AZ 046

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



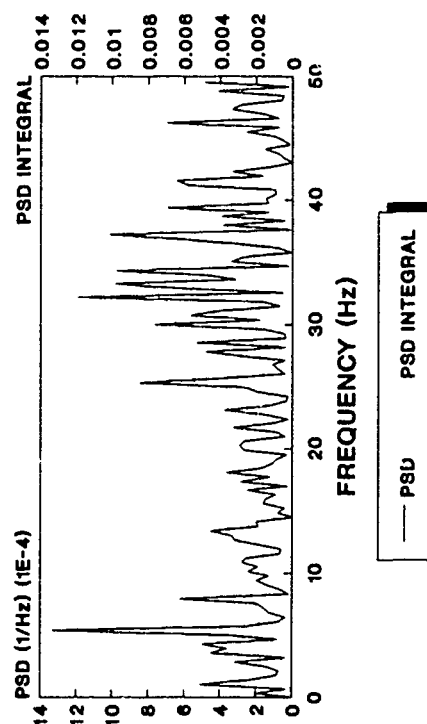
RECTANGLE - HT 7.76 - THETA 00 - AZ 046

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



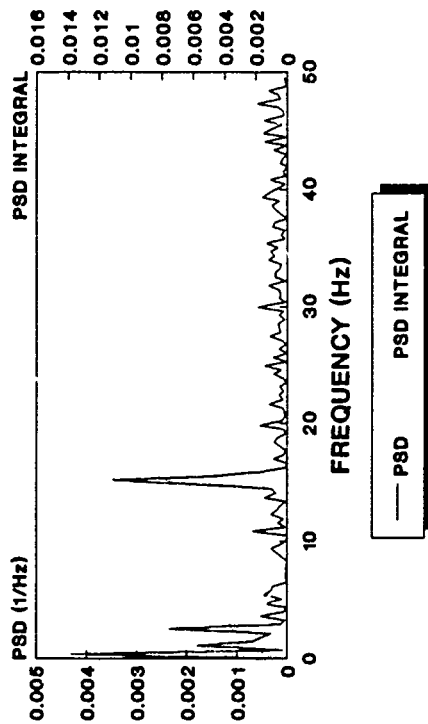
RECTANGLE - HT 7.76 - THETA 00 - AZ 046

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



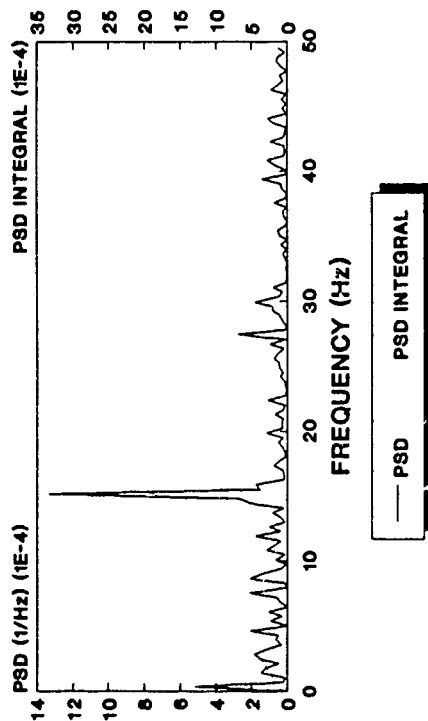
RECTANGLE - HT 7.76 - THETA 00 - AZ 046

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



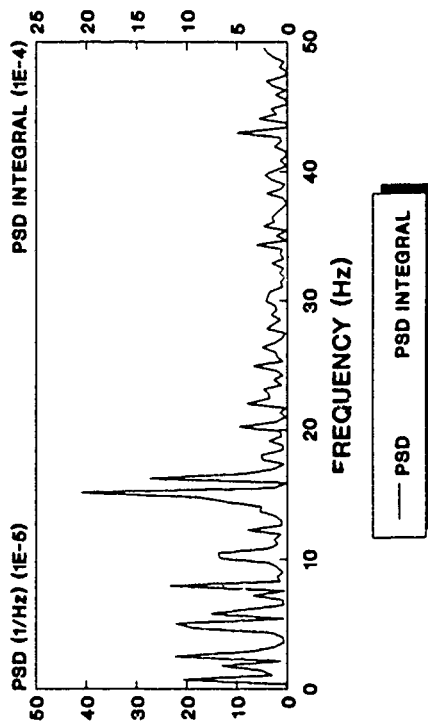
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



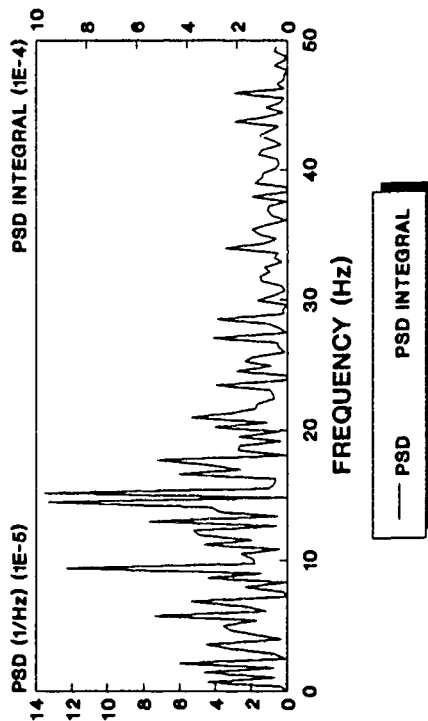
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



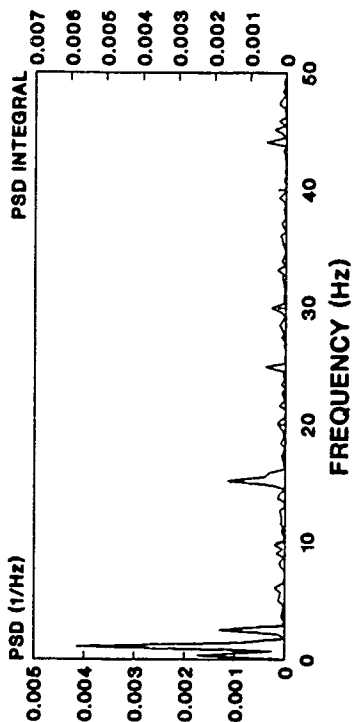
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



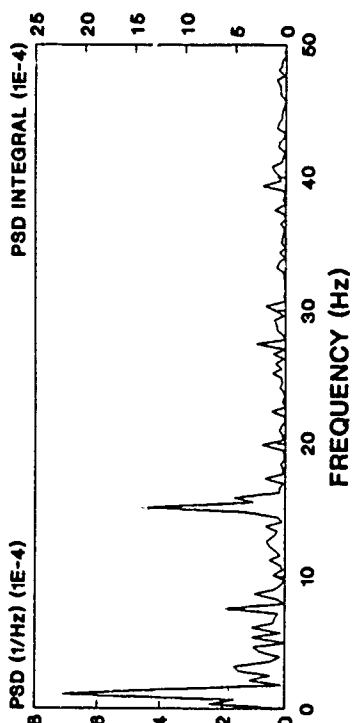
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



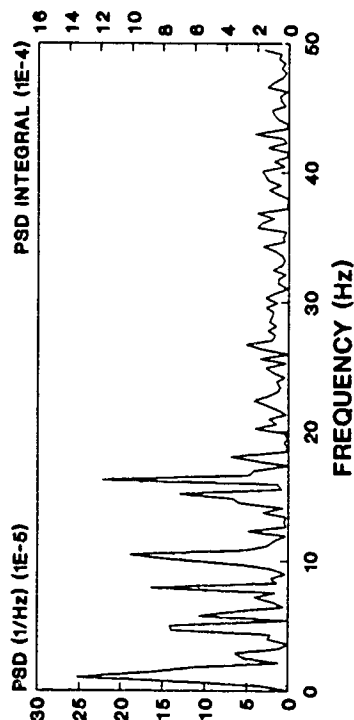
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



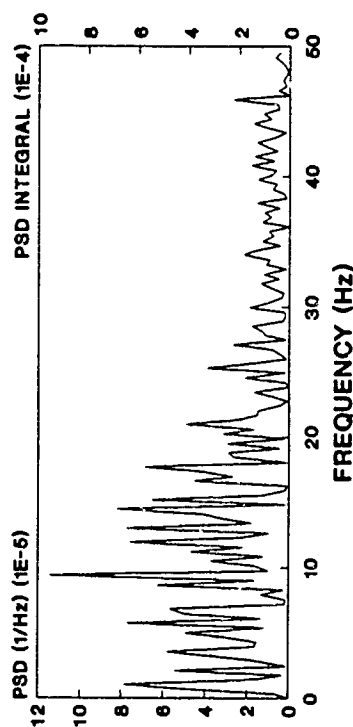
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



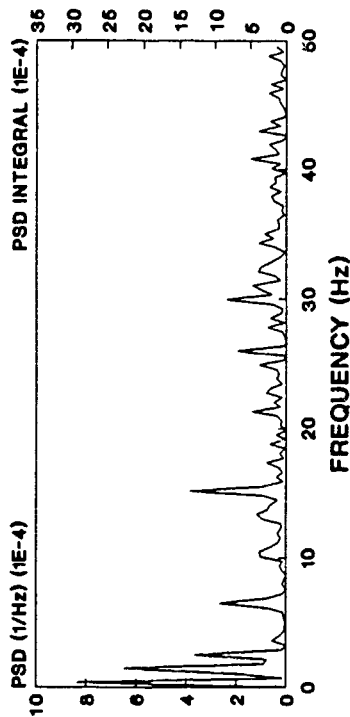
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



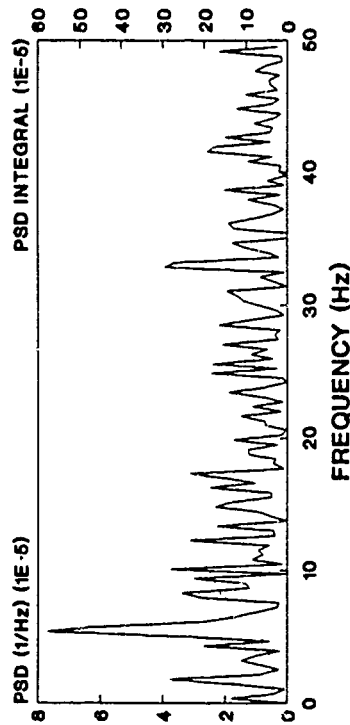
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



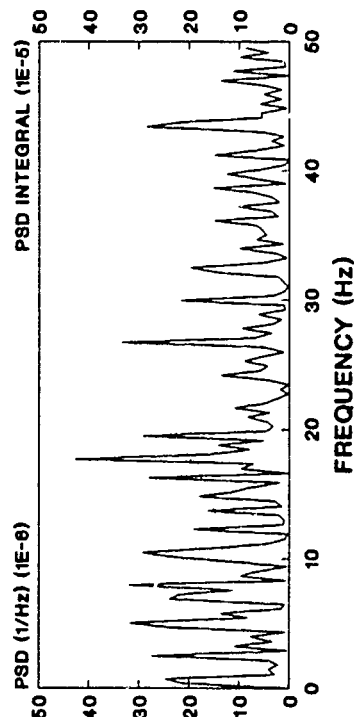
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



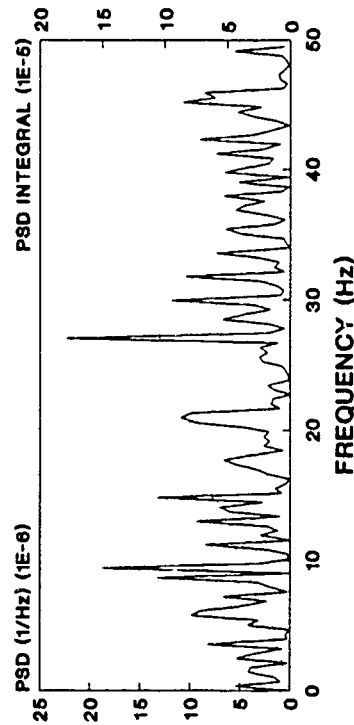
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



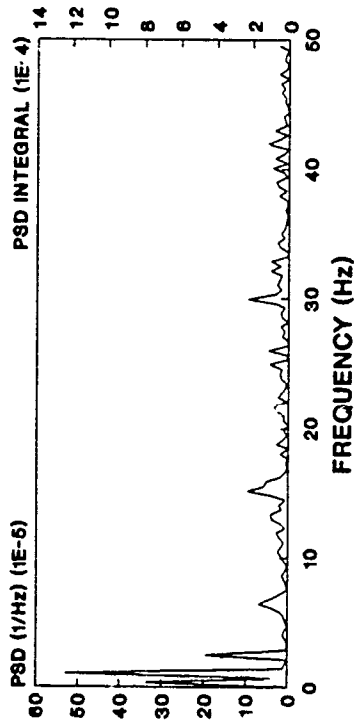
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



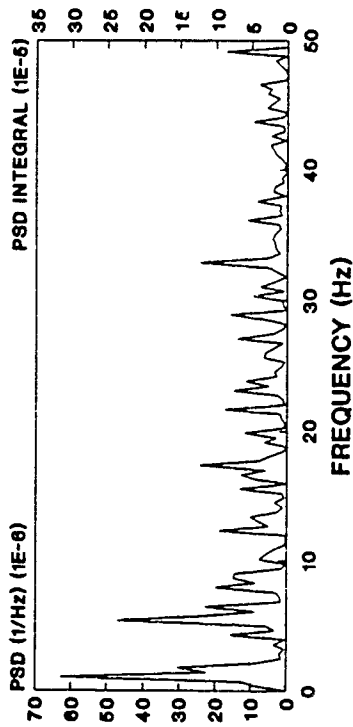
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



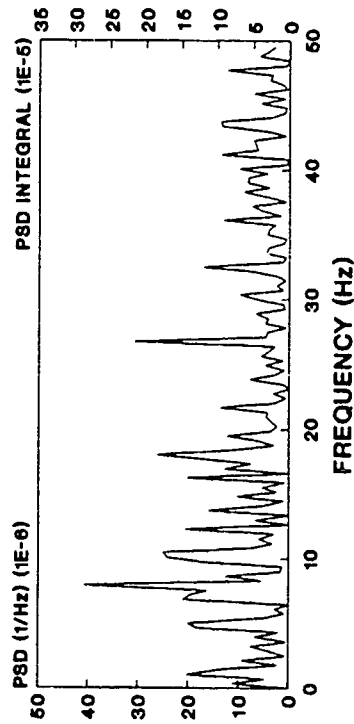
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



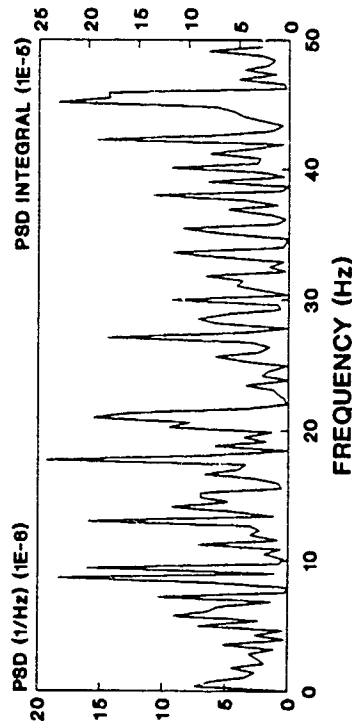
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



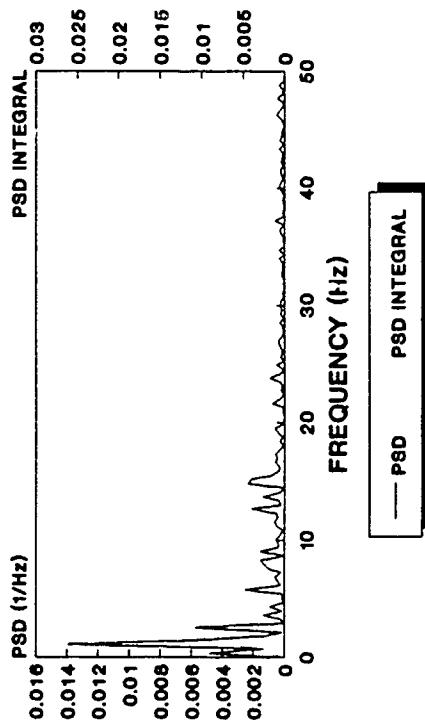
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



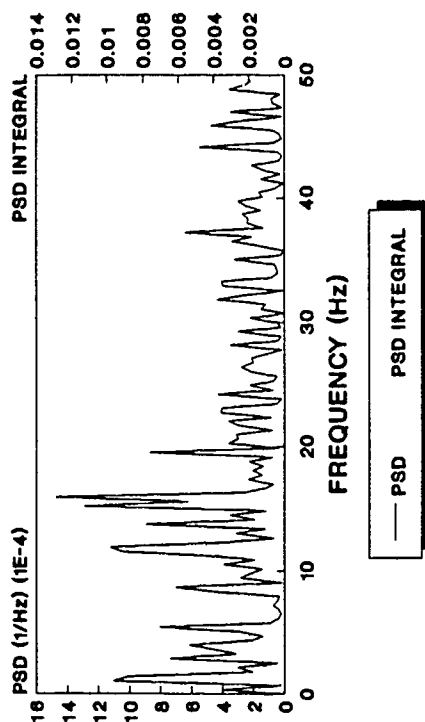
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



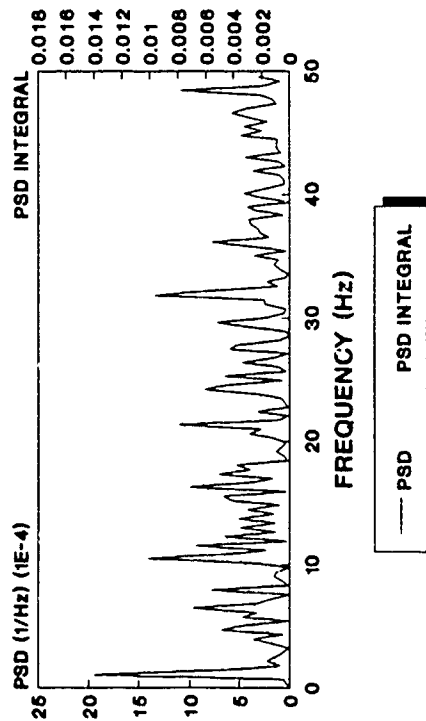
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



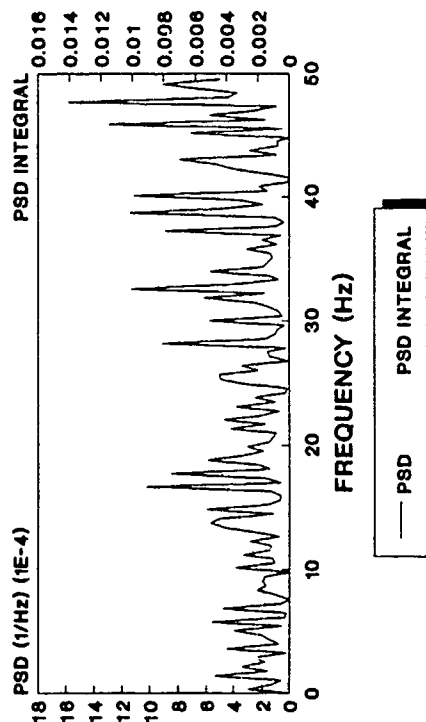
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



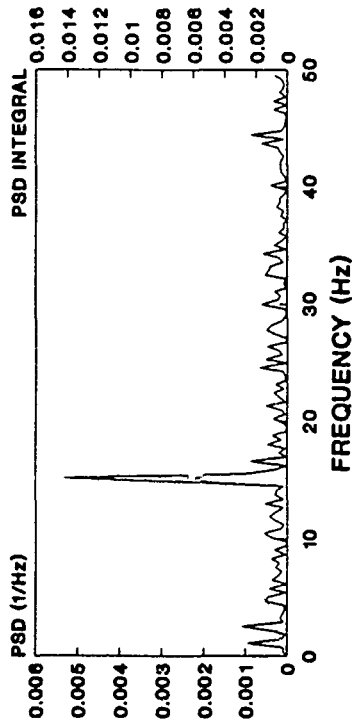
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



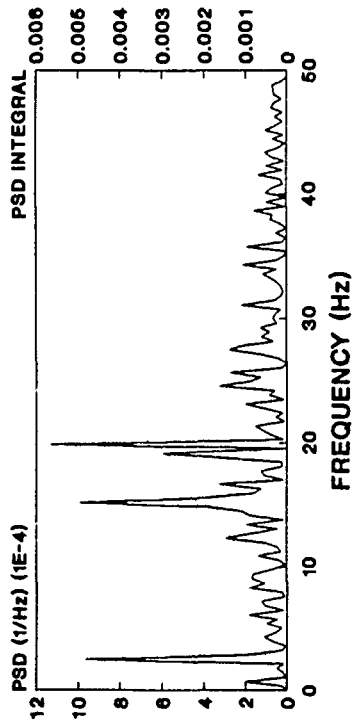
RECTANGLE - HT 7.76 - THETA 00 - AZ 060

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



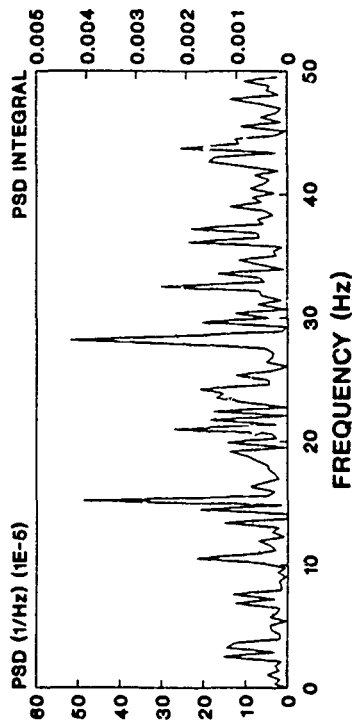
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



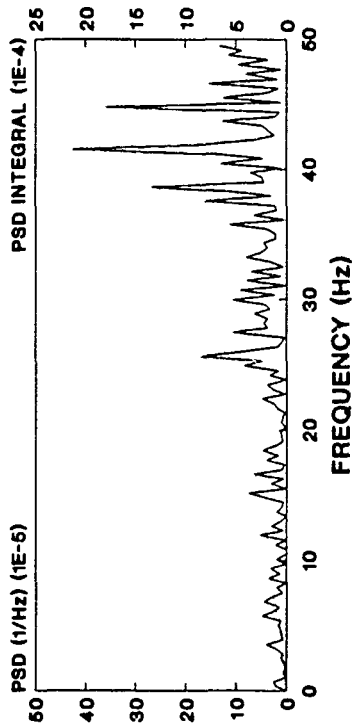
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



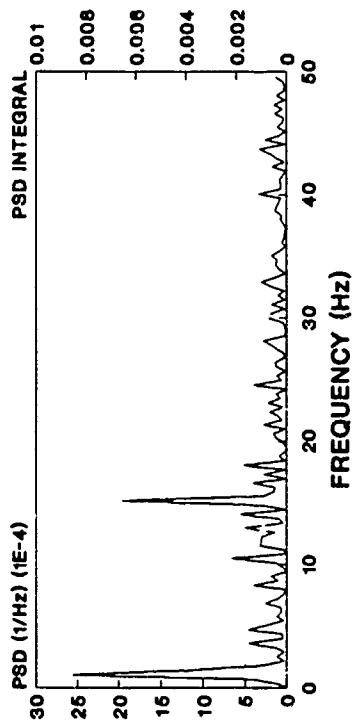
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



RECTANGLE - HT 7.76 - THETA 00 - AZ 090

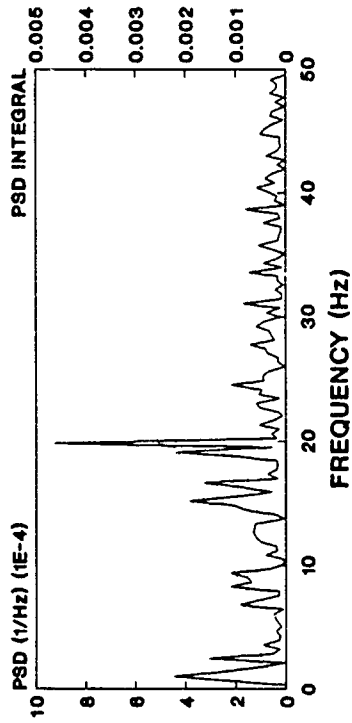
MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - HT 7.76 - THETA 00 - AZ 090

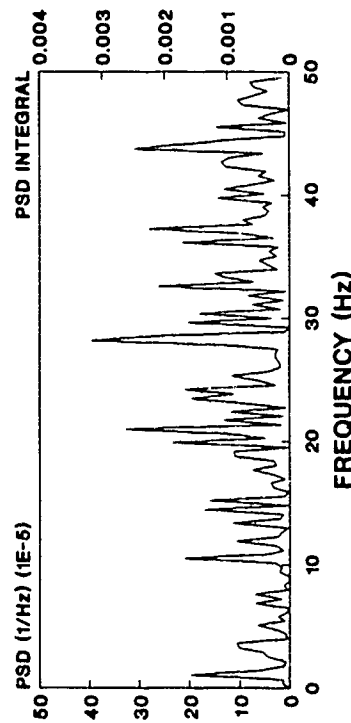
MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - HT 7.76 - THETA 00 - AZ 090

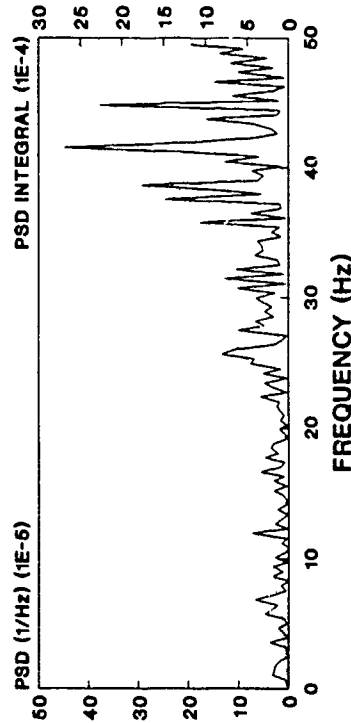
MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - HT 7.76 - THETA 00 - AZ 090

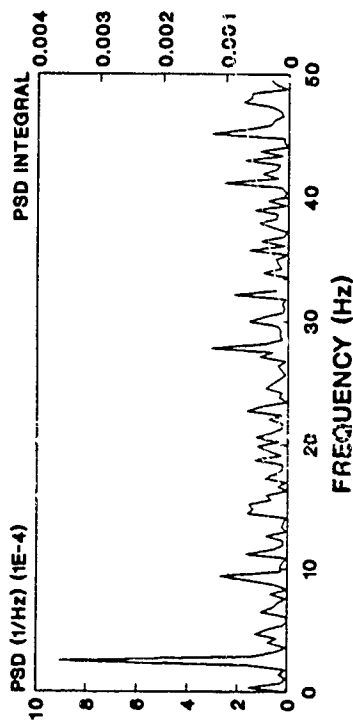
MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



PSD PSD INTEGRAL

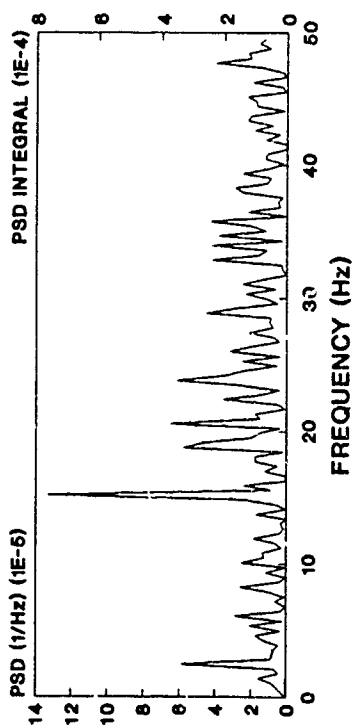
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



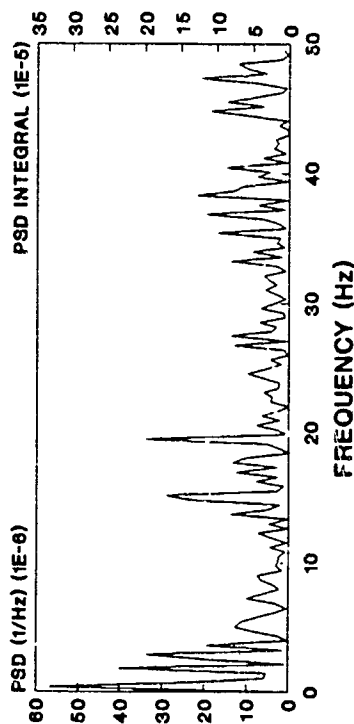
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



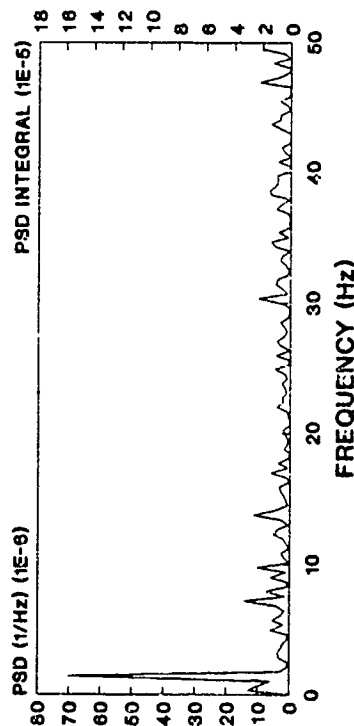
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



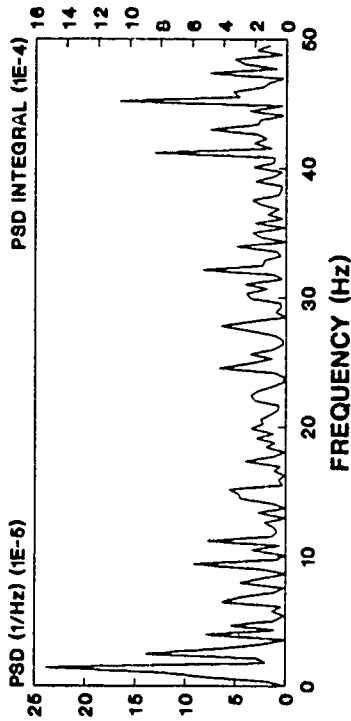
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



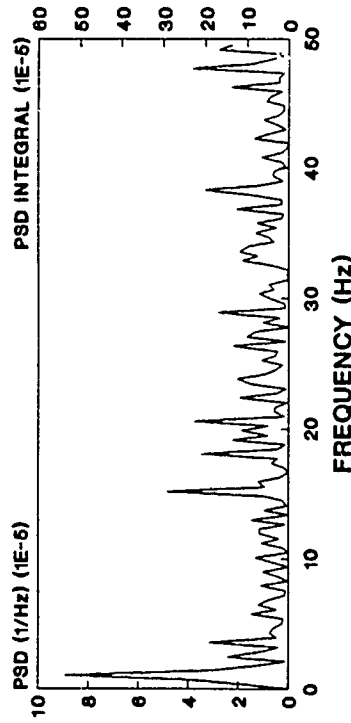
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



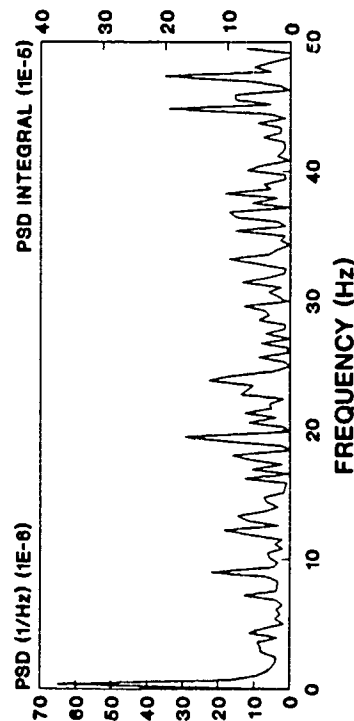
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



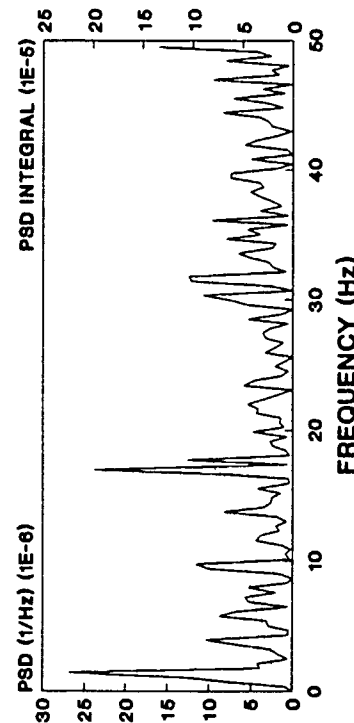
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



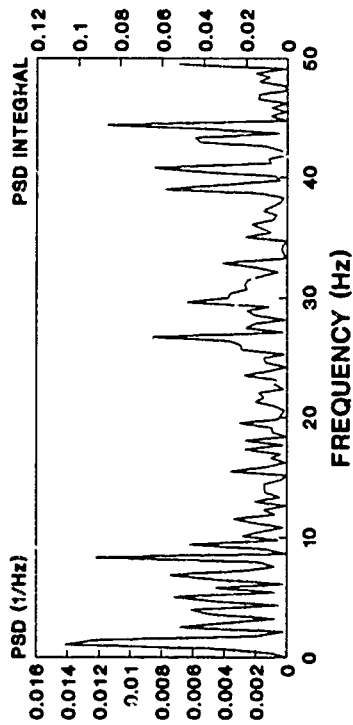
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



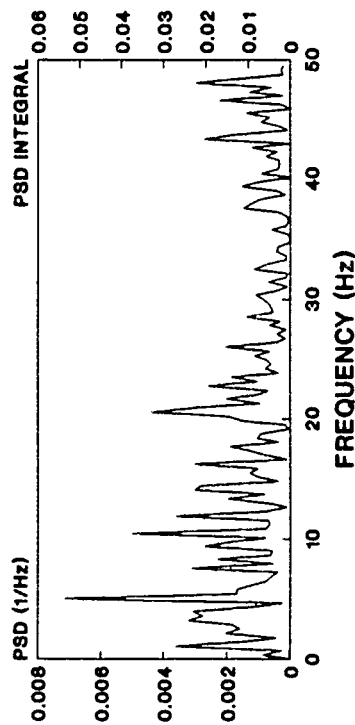
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



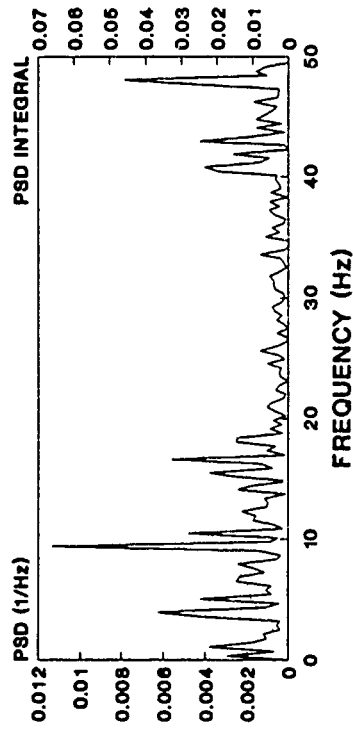
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



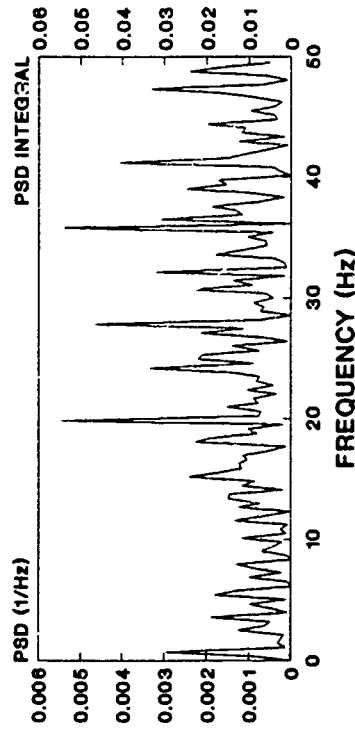
RECTANGLE - HT 7.76 - THETA 00 - AZ 090

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



RECTANGLE - HT 7.76 - THETA 00 - AZ 090

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



RECTANGLE - HT 7.76 - THETA 00 - AZ 090

DATA REPORT

SHAPE:	RECTANGLE
DECLINATION [THETA (degrees)]:	0
DIMENSIONS [LxWxH (in)]:	4.06 x 8.0 x 4.0
WEIGHT (gm):	925.9
TORSION FREQUENCY (Hz):	60
LATERAL (SIDE BEND) FREQUENCY (Hz):	105
NORMAL (AFT BEND) FREQUENCY (Hz):	101
AZIMUTHS (degrees):	0, 30, 45, 60, 90

GRAPH CORRECTIONS:

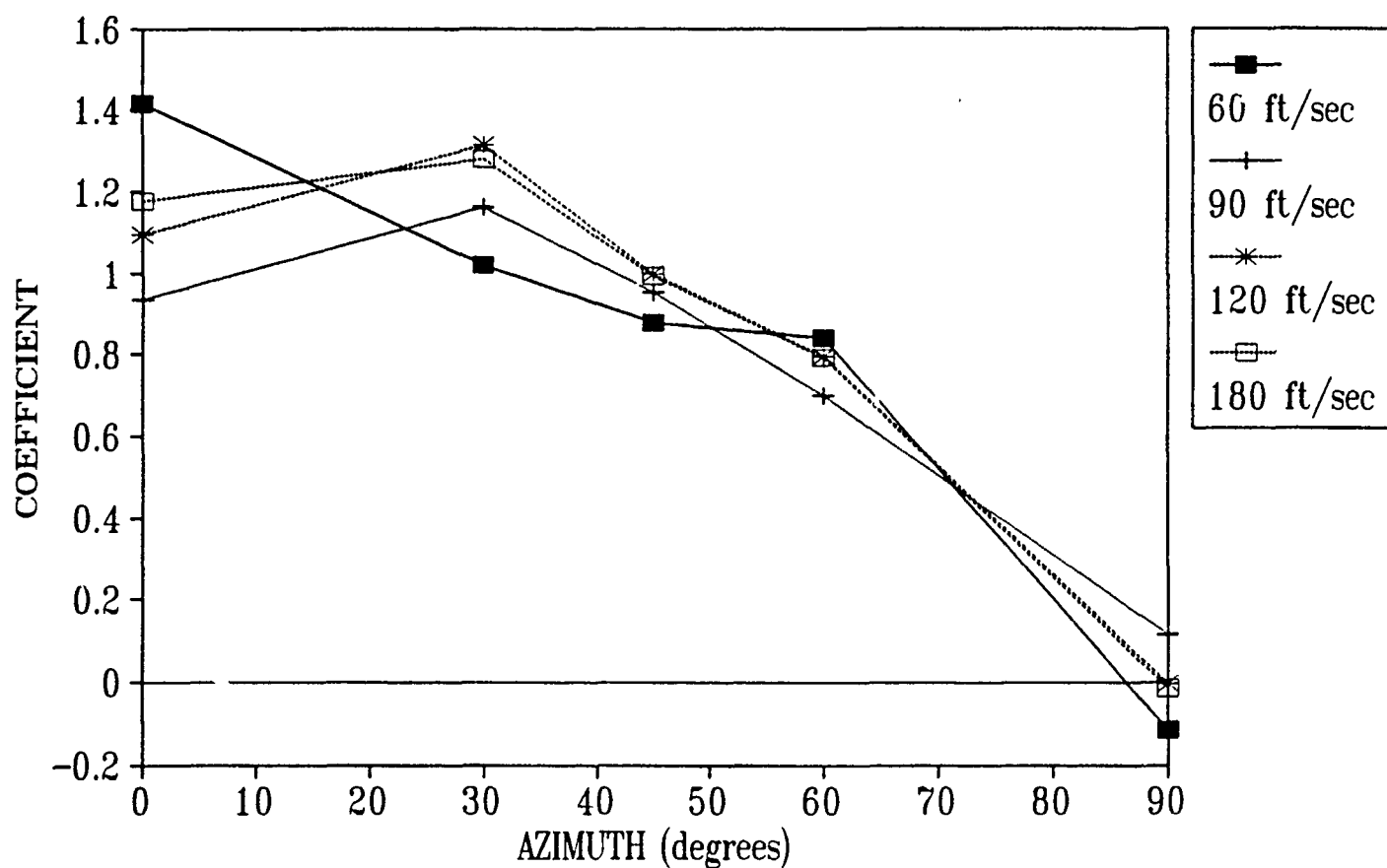
- The mean value of the **ROLL** moment coefficients should be divided by 12.
- The PSD and PSD Integral values of the **ROLL** moment coefficients should be divided by 144.

OBSERVATIONS:

- Very good shedding seen in the lateral (yaw) data at 0 degrees azimuth. The shed is multifrequency in nature.
- 15.176 Hz spike observed in the data.

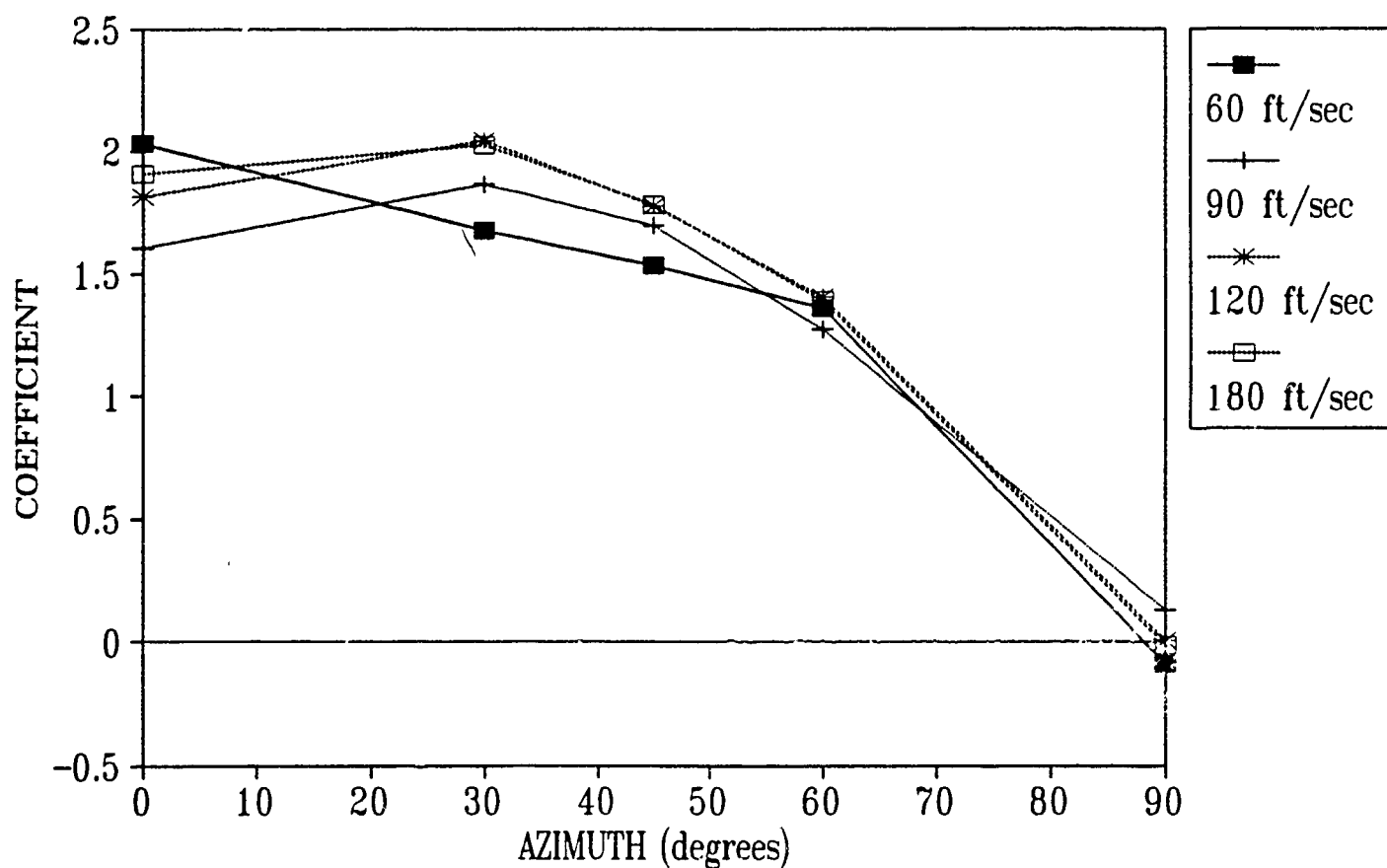
MEAN NORMAL FORCE COEFFICIENT

RECTANGLE - THETA 00



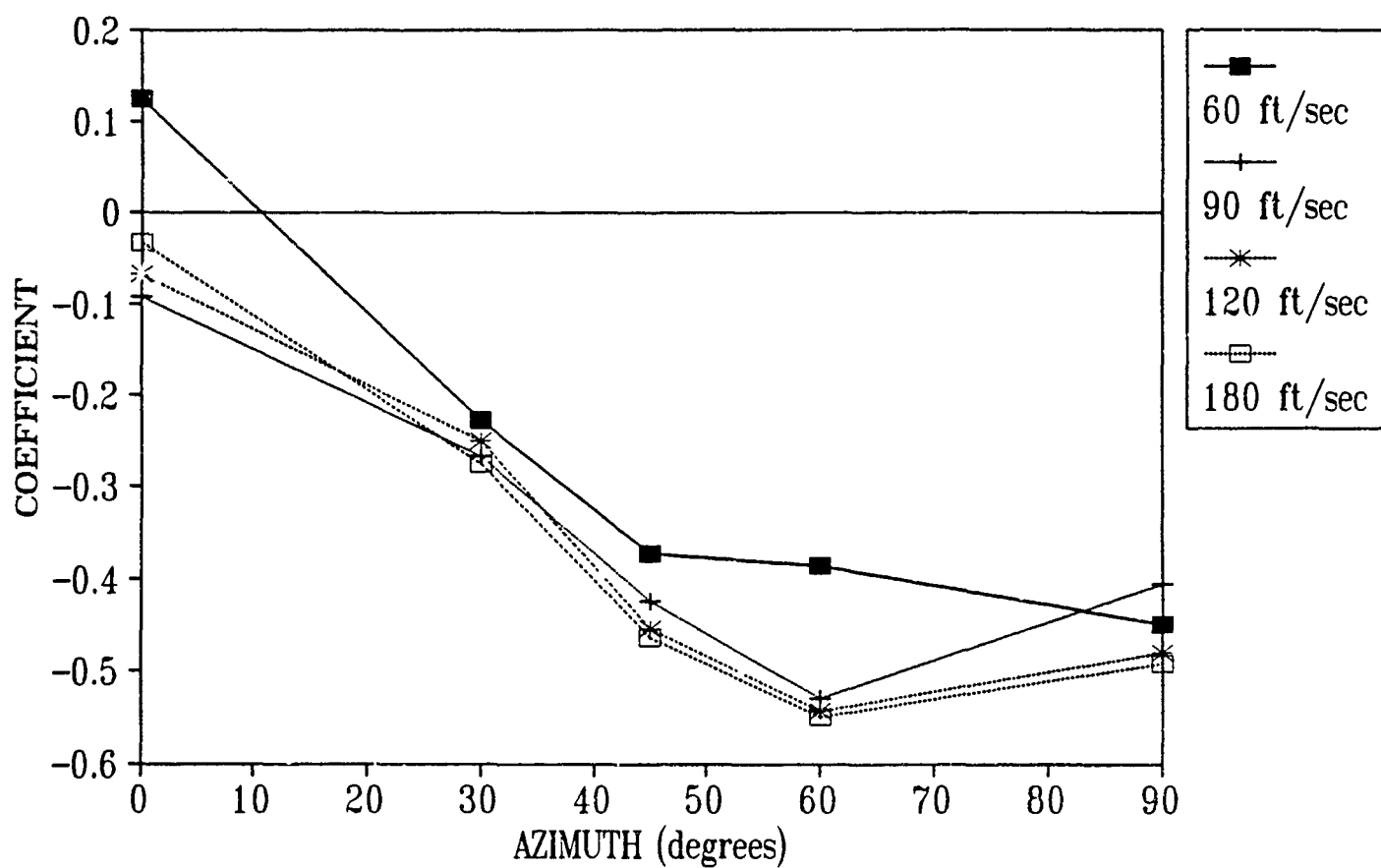
MEAN NORMAL MOMENT COEFFICIENT

RECTANGLE - THETA 00



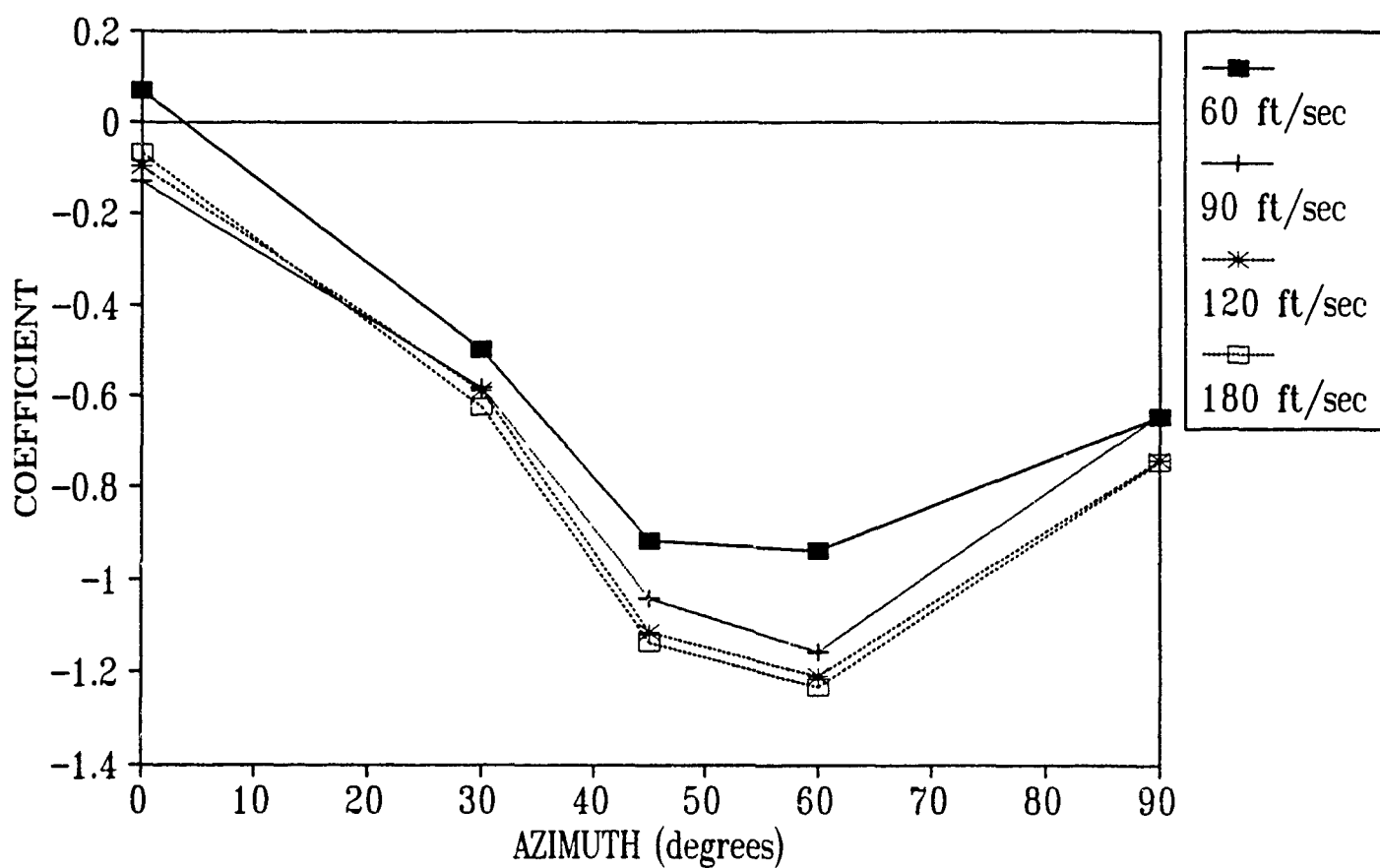
MEAN YAW FORCE COEFFICIENT

RECTANGLE - THETA 00

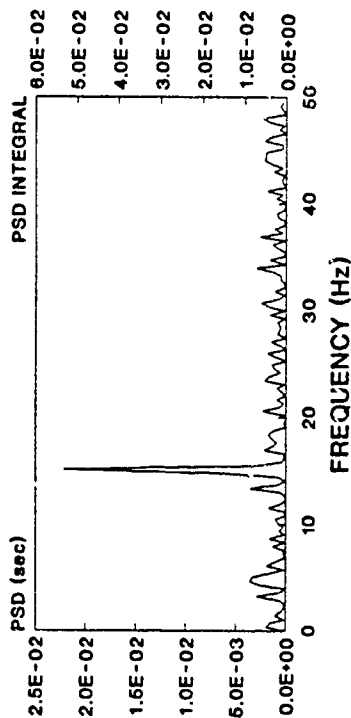


MEAN YAW MOMENT COEFFICIENT

RECTANGLE - THETA 00



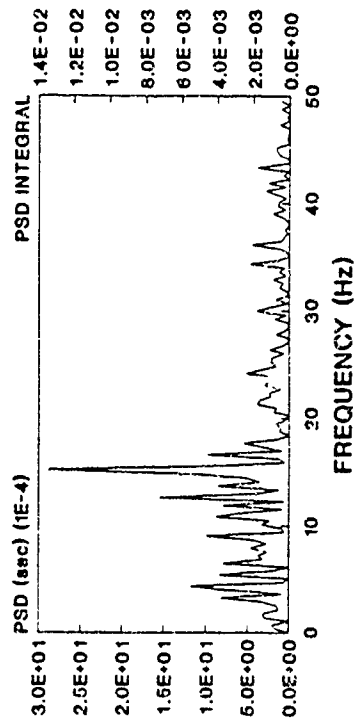
FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 000

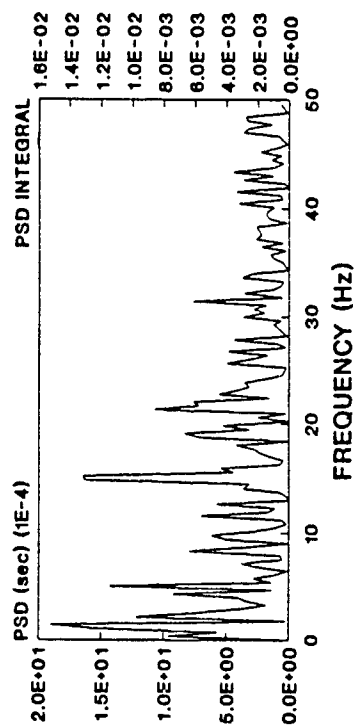
FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 000

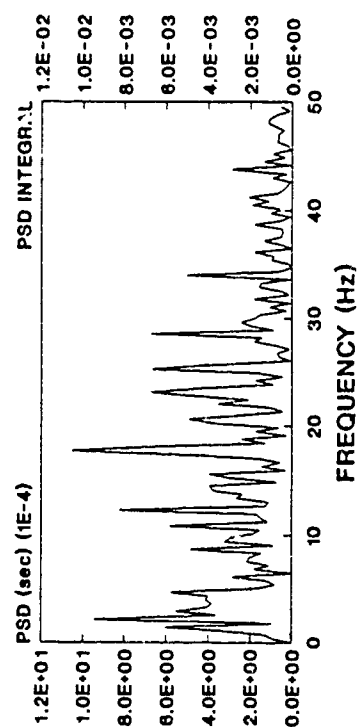
FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 000

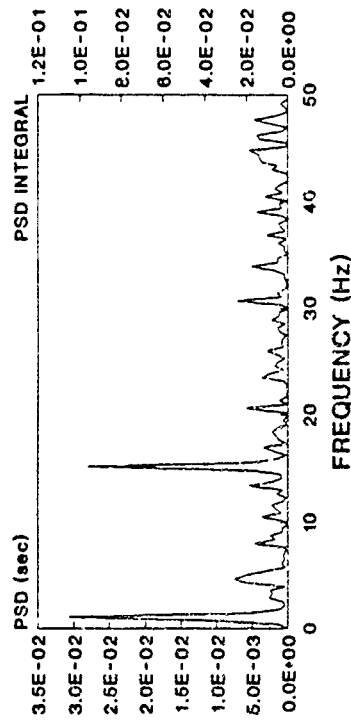
FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



PSD PSD INTEGRAL

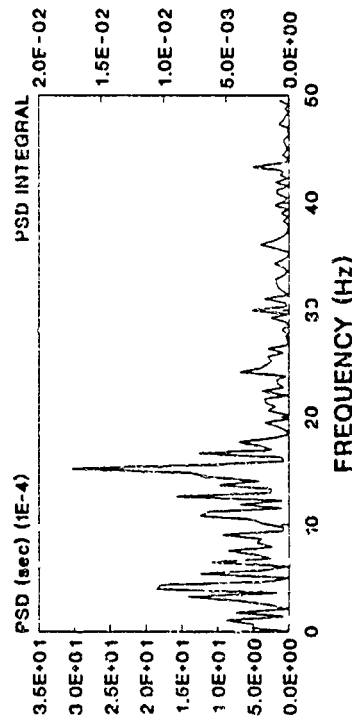
RECTANGLE - THETA 00 - AZIMUTH - 000

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



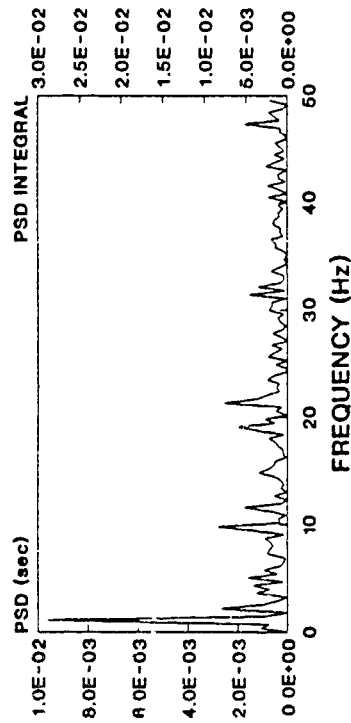
RECTANGLE - THETA 00 - AZIMUTH - 000

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



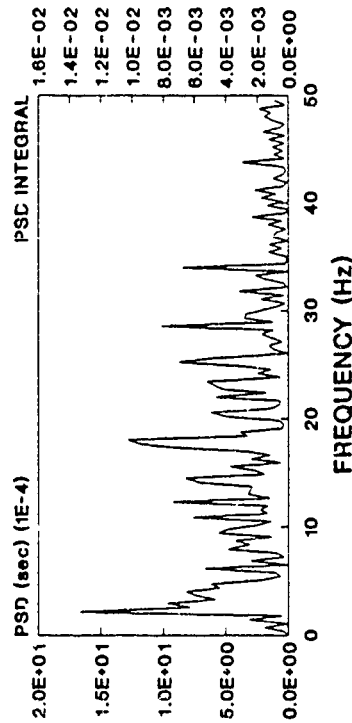
RECTANGLE - THETA 00 - AZIMUTH - 000

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



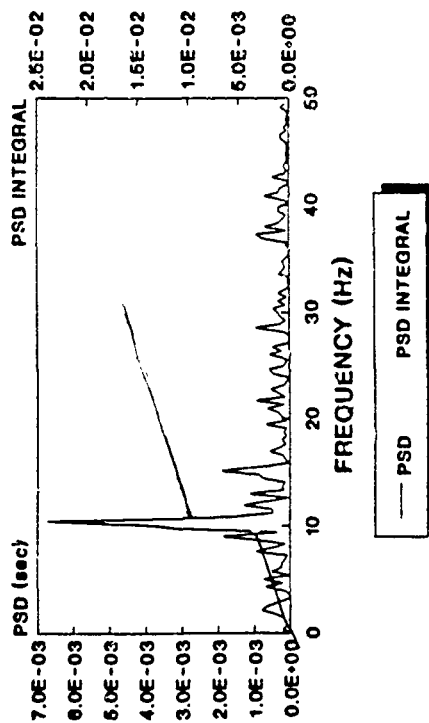
RECTANGLE - THETA 00 - AZIMUTH - 000

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



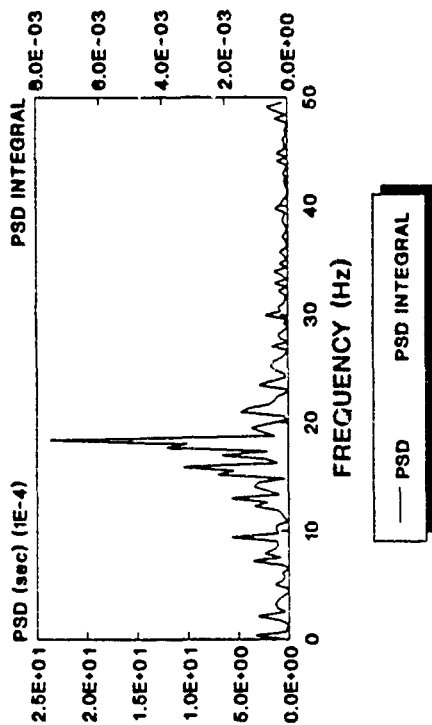
RECTANGLE - THETA 00 - AZIMUTH - 000

FORCE COEFF - YAW 60 FT/SEC NOMINAL



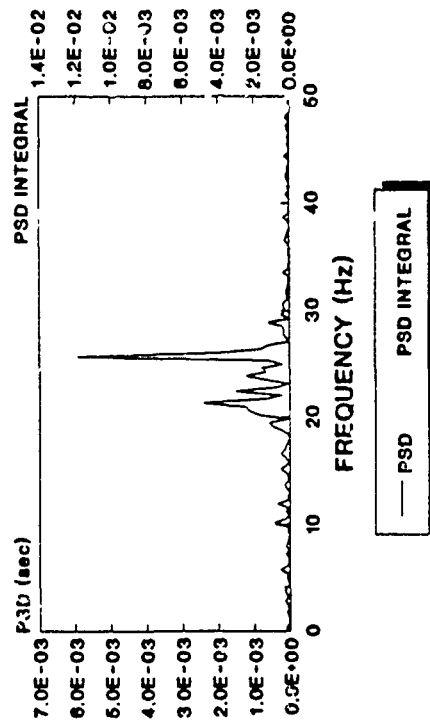
RECTANGLE - THETA 00 - AZIMUTH - 000

FORCE COEFF - YAW 90 FT/SEC NOMINAL



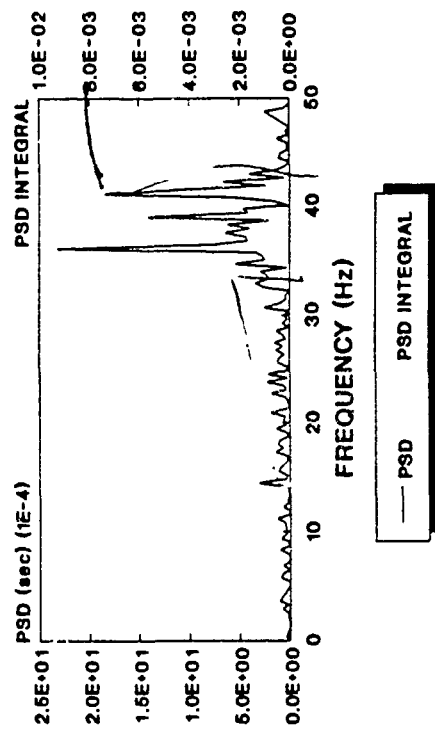
RECTANGLE - THETA 00 - AZIMUTH - 000

FORCE COEFF - YAW 120 FT/SEC NOMINAL



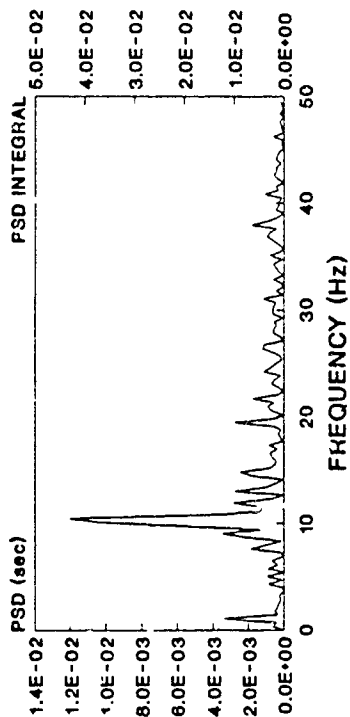
RECTANGLE - THETA 00 - AZIMUTH - 000

FORCE COEFF - YAW 180 FT/SEC NOMINAL



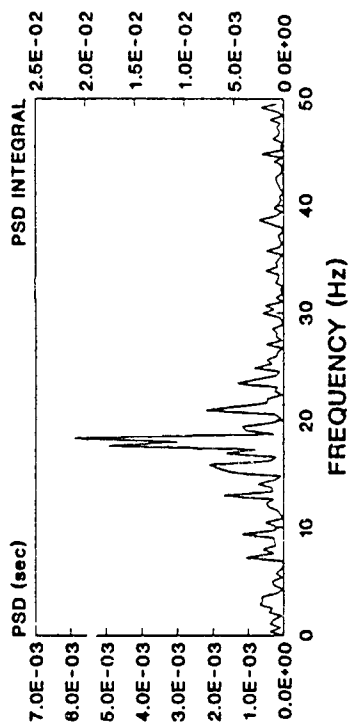
RECTANGLE - THETA 00 - AZIMUTH - 000

MOMENT COEFF - YAW 60 FT/SEC NOMINAL



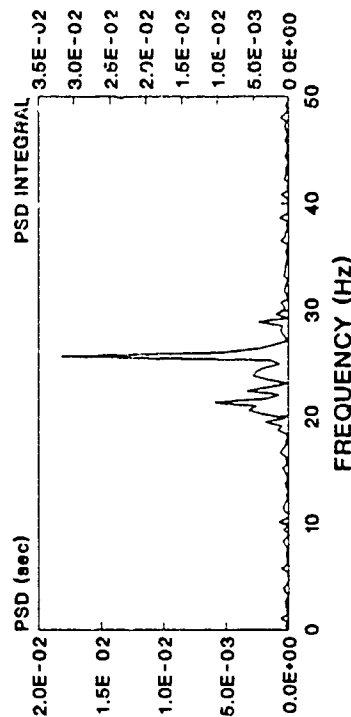
RECTANGLE - THETA 00 - AZIMUTH - 000

MOMENT COEFF - YAW 90 FT/SEC NOMINAL



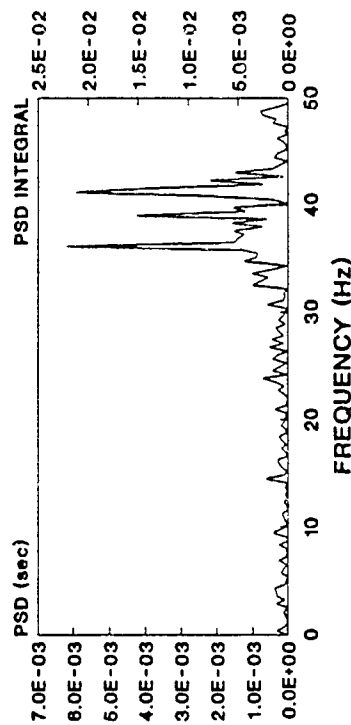
RECTANGLE - THETA 00 - AZIMUTH - 000

MOMENT COEFF - YAW 120 FT/SEC NOMINAL



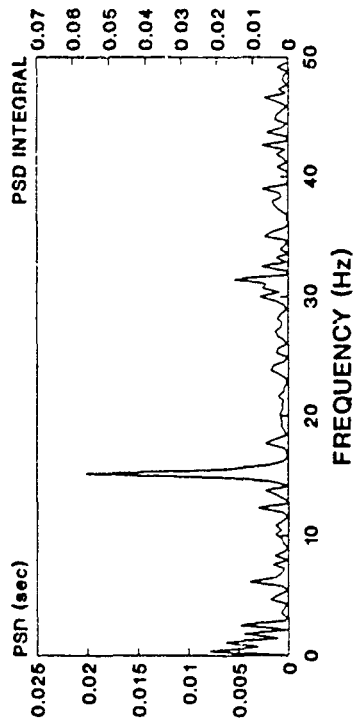
RECTANGLE - THETA 00 - AZIMUTH - 000

MOMENT COEFF - YAW 180 FT/SEC NOMINAL



RECTANGLE - THETA 00 - AZIMUTH - 000

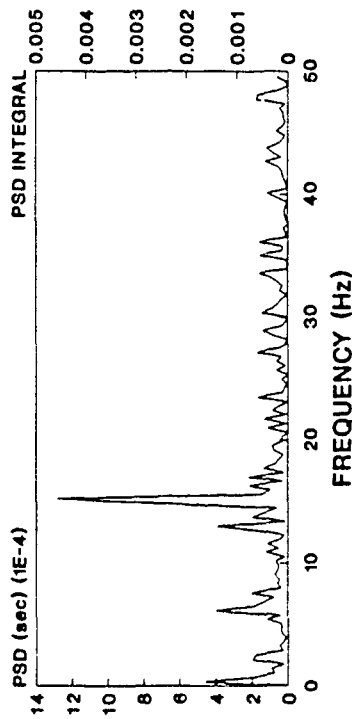
FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 030

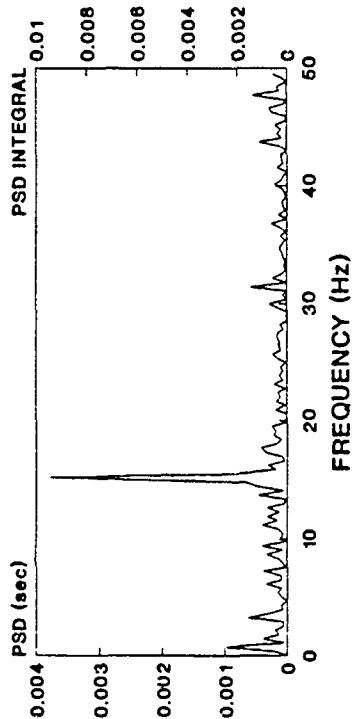
FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 030

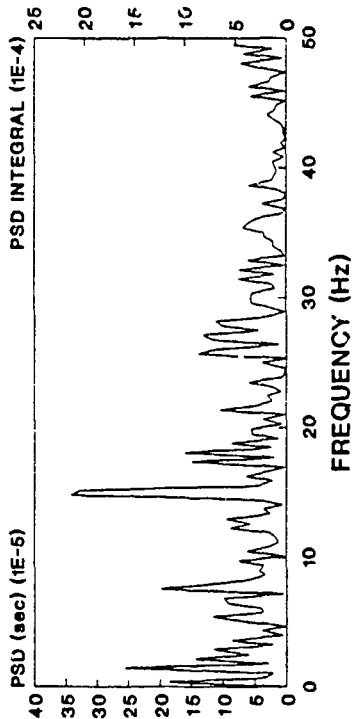
FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 030

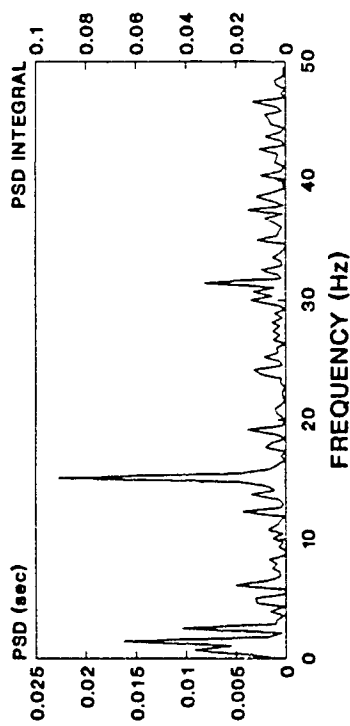
FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

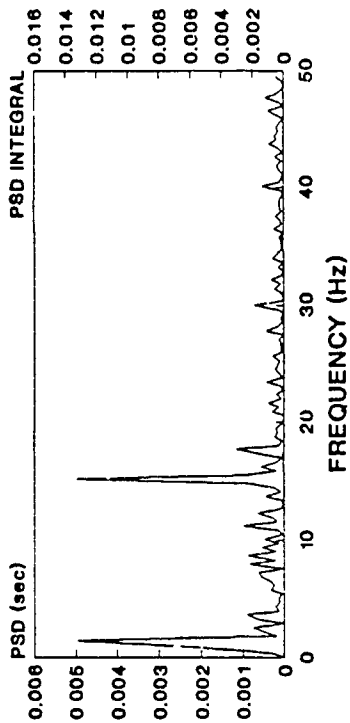
RECTANGLE - THETA 00 - AZIMUTH - 030

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



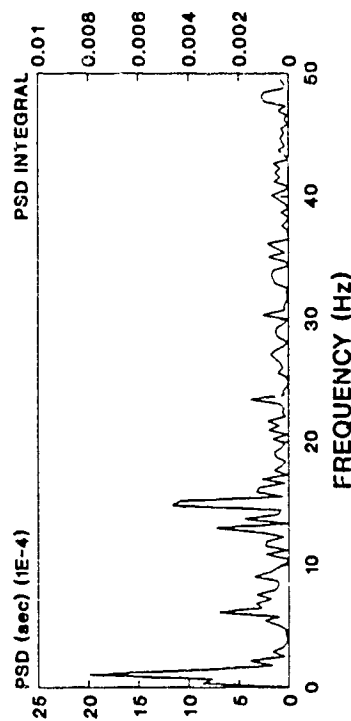
RECTANGLE - THETA 00 - AZIMUTH - 030

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



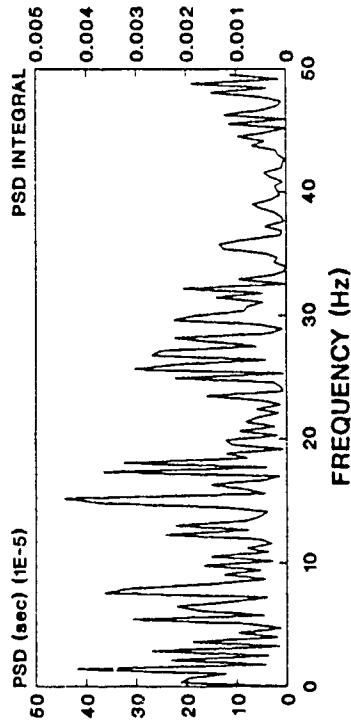
RECTANGLE - THETA 00 - AZIMUTH - 030

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



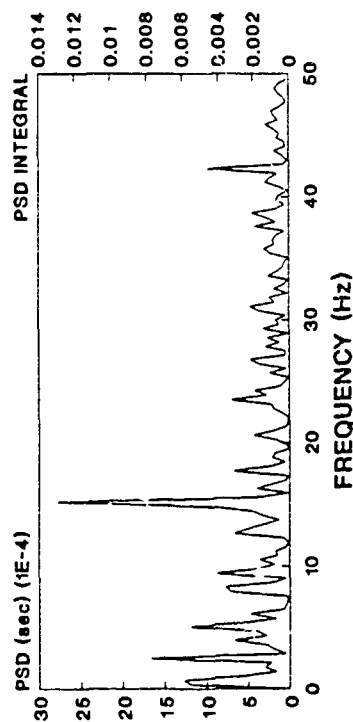
RECTANGLE - THETA 00 - AZIMUTH - 030

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



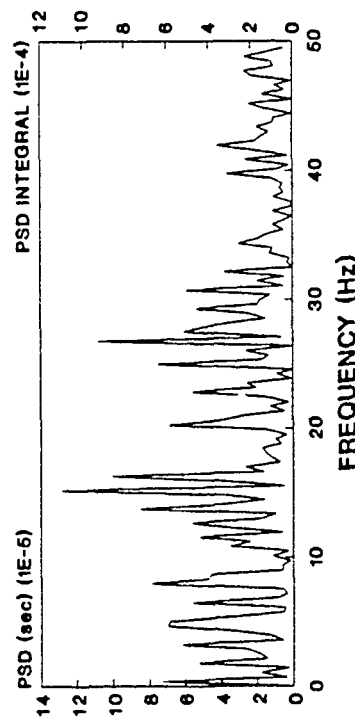
RECTANGLE - THETA 00 - AZIMUTH - 030

FORCE COEFF - YAW 60 FT/SEC NOMINAL



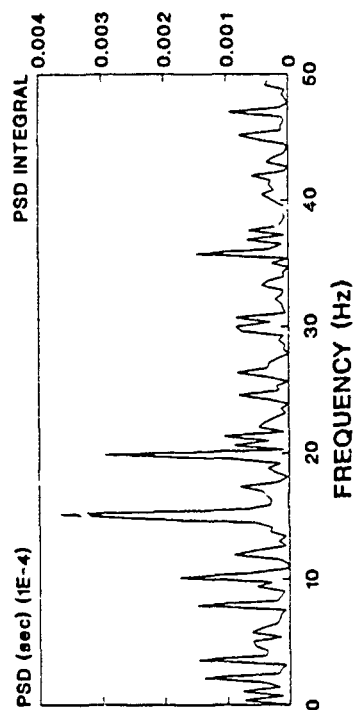
RECTANGLE - THETA 00 - AZIMUTH - 030

FORCE COEFF - YAW 120 FT/SEC NOMINAL



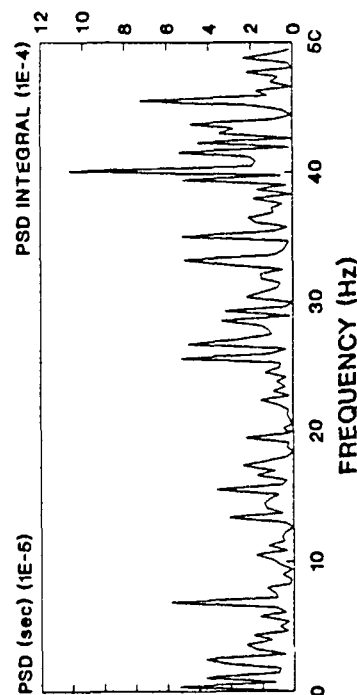
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FORCE COEFF - YAW 90 FT/SEC NOMINAL



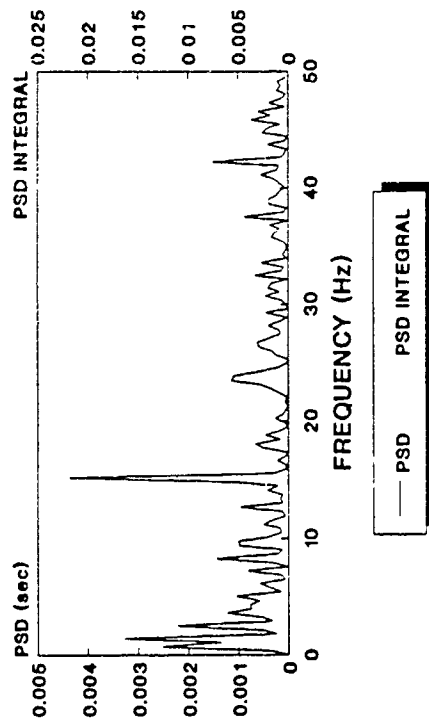
RECTANGLE - THETA 00 - AZIMUTH - 030

FORCE COEFF - YAW 180 FT/SEC NOMINAL



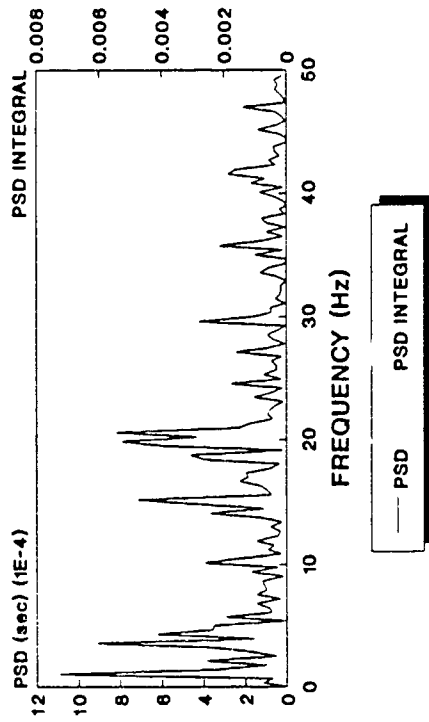
RECTANGLE - THETA 00 - AZIMUTH - 030

MOMENT COEFF - YAW **60 FT/SEC NOMINAL**



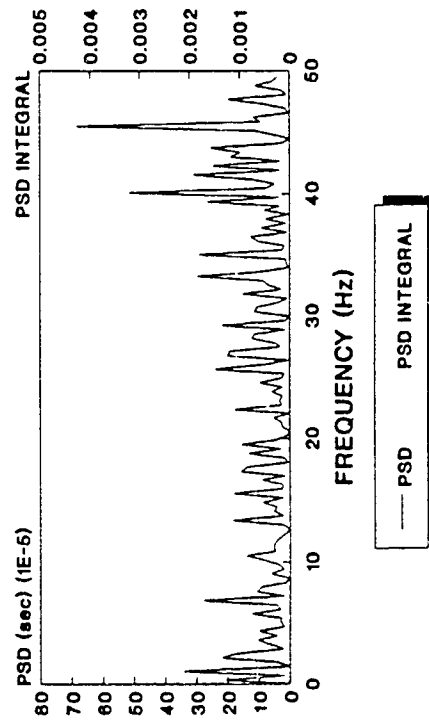
RECTANGLE - THETA 00 - AZIMUTH - 030

MOMENT COEFF - YAW **90 FT/SEC NOMINAL**



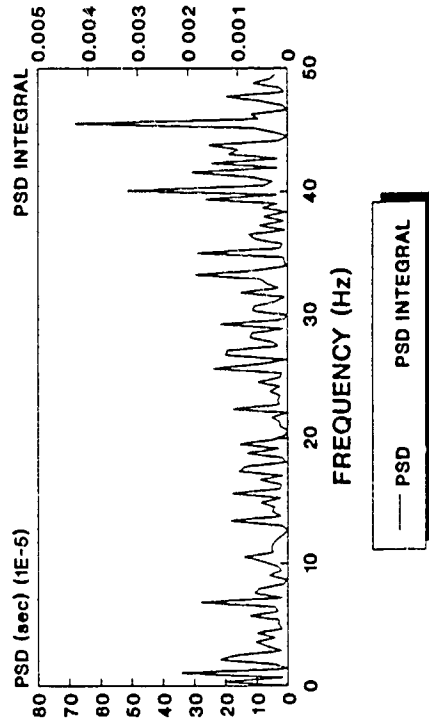
RECTANGLE - THETA 00 - AZIMUTH - 030

MOMENT COEFF - YAW **120 FT/SEC NOMINAL**



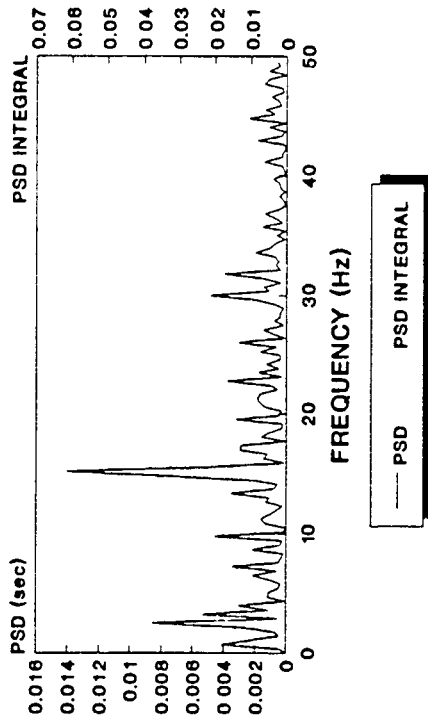
RECTANGLE - THETA 00 - AZIMUTH - 030

MOMENT COEFF - YAW **180 FT/SEC NOMINAL**



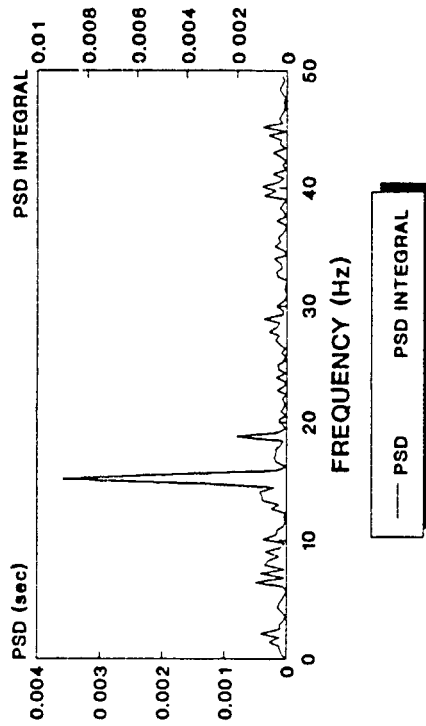
RECTANGLE - THETA 00 - AZIMUTH - 030

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



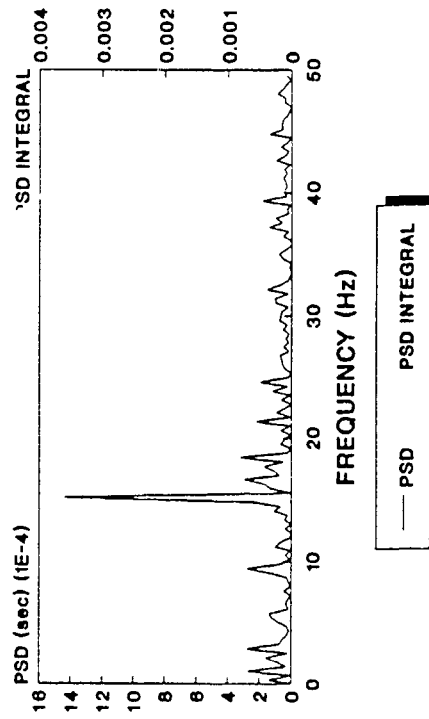
RECTANGLE - THETA 00 - AZIMUTH - 046

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



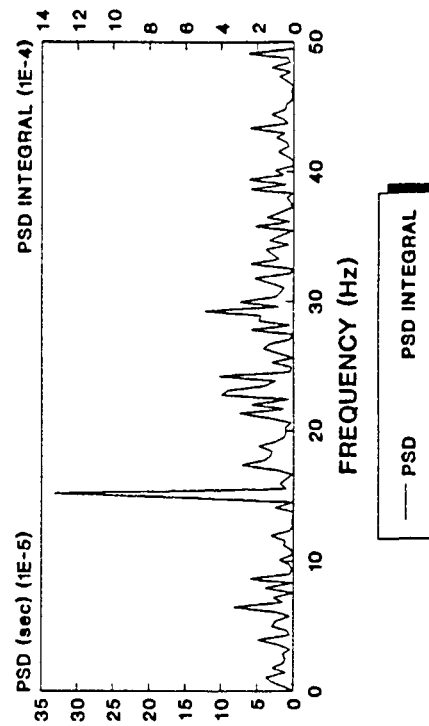
RECTANGLE - THETA 00 - AZIMUTH - 046

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



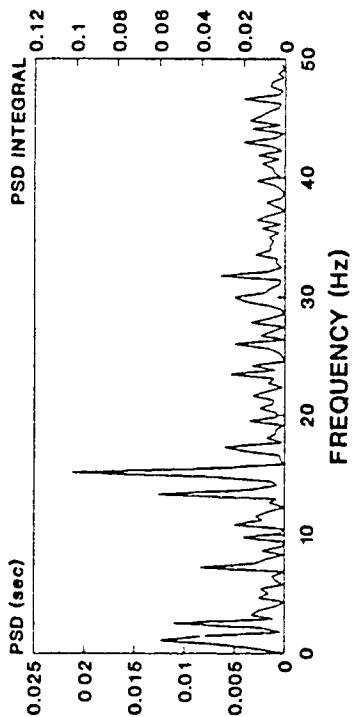
RECTANGLE - THETA 00 - AZIMUTH - 046

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



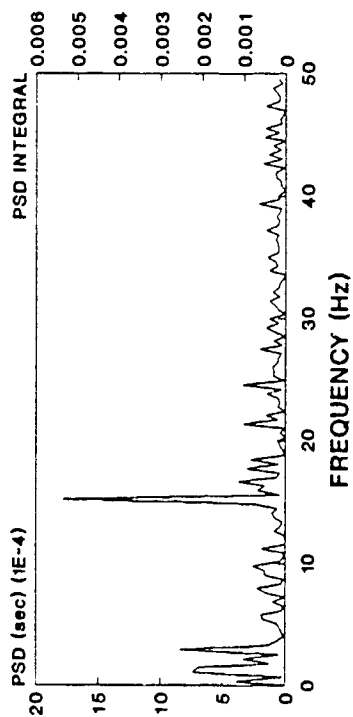
RECTANGLE - THETA 00 - AZIMUTH - 046

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



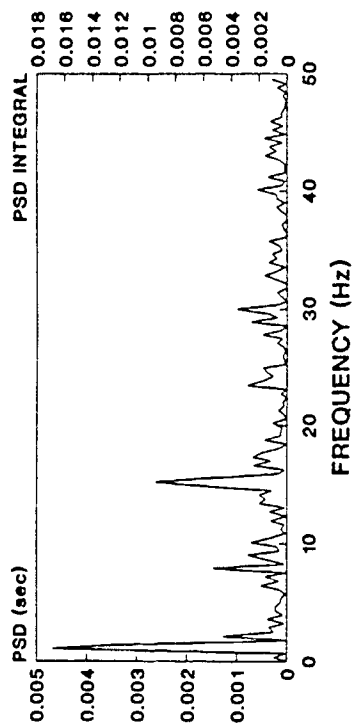
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MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



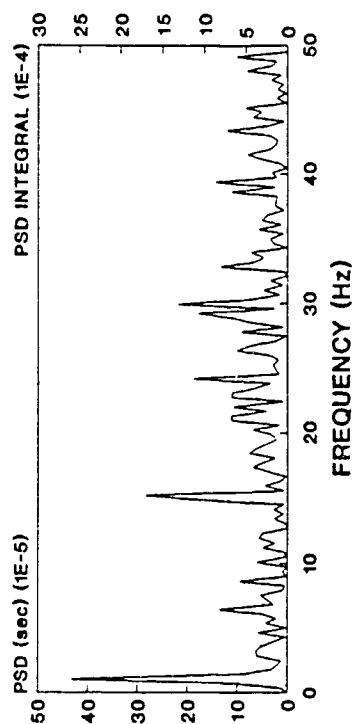
RECTANGLE - THETA 00 - AZIMUTH - 045

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



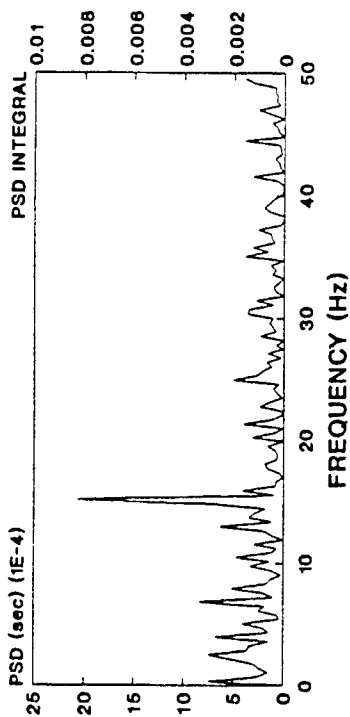
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MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



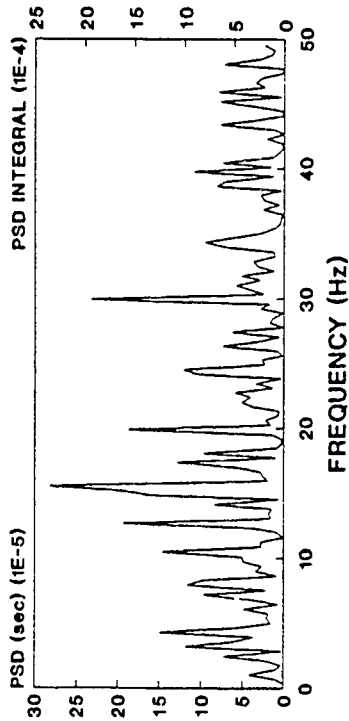
RECTANGLE - THETA 00 - AZIMUTH - 045

FORCE COEFF - YAW 60 FT/SEC NOMINAL



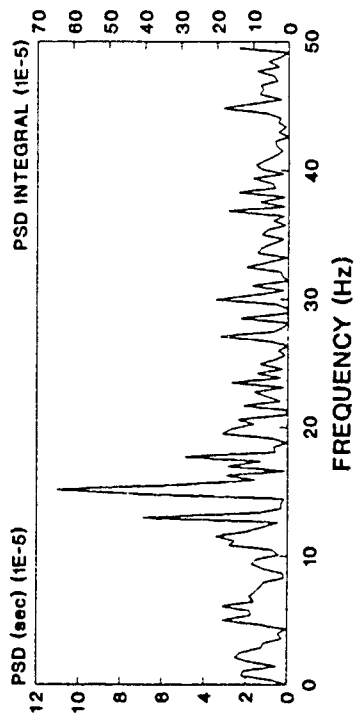
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FORCE COEFF - YAW 90 FT/SEC NOMINAL



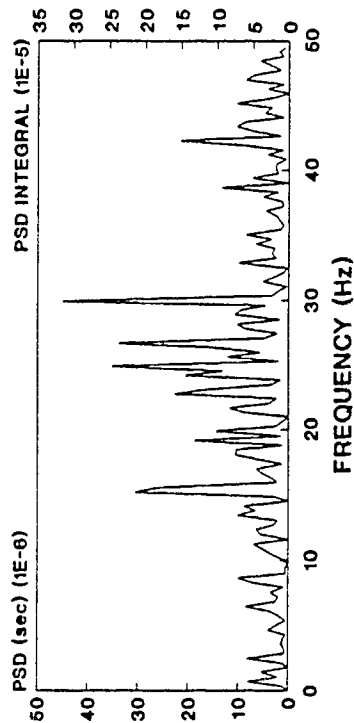
RECTANGLE - THETA 00 - AZIMUTH - 045

FORCE COEFF - YAW 120 FT/SEC NOMINAL



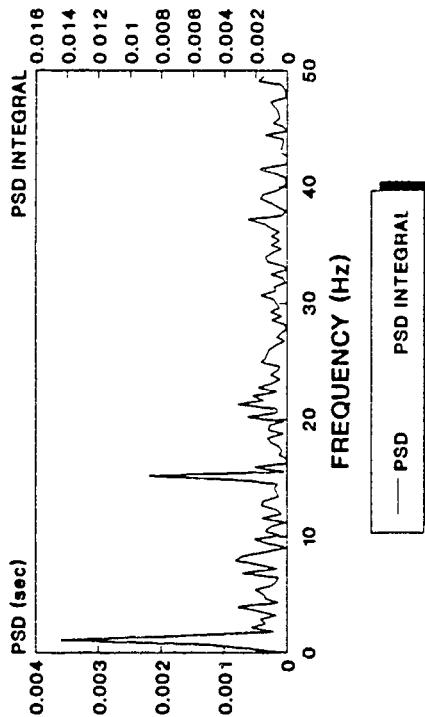
RECTANGLE - THETA 00 - AZIMUTH - 045

FORCE COEFF - YAW 180 FT/SEC NOMINAL



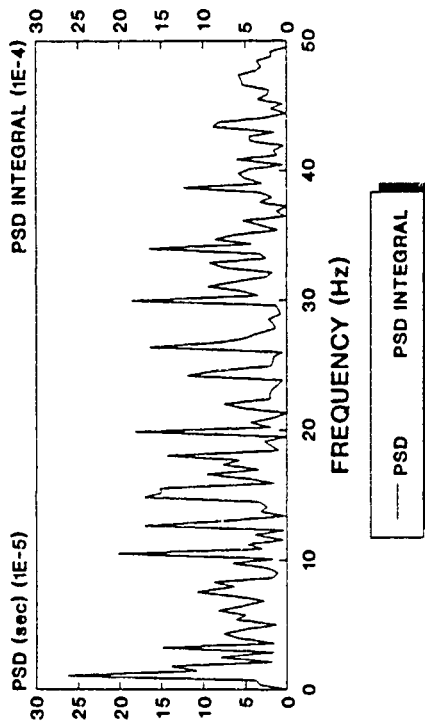
RECTANGLE - THETA 00 - AZIMUTH - 045

MOMENT COEFF - YAW 60 FT/SEC NOMINAL



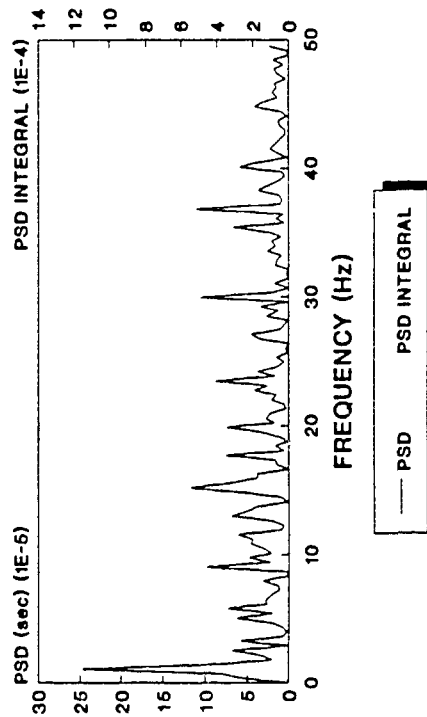
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MOMENT COEFF - YAW 90 FT/SEC NOMINAL



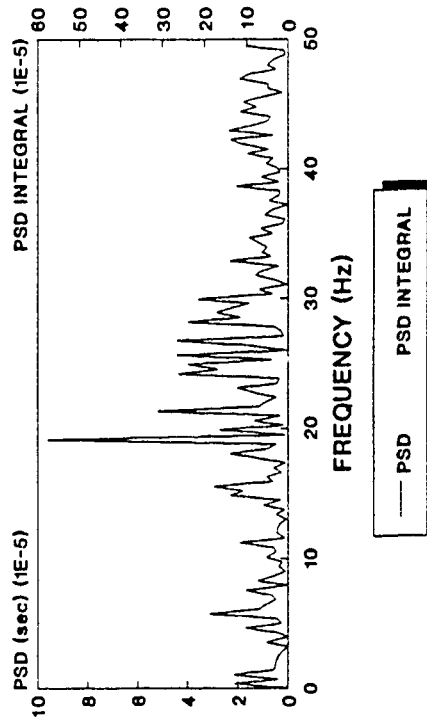
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MOMENT COEFF - YAW 120 FT/SEC NOMINAL



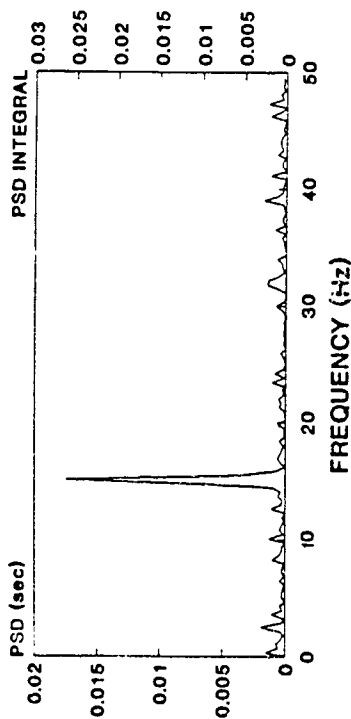
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MOMENT COEFF - YAW 180 FT/SEC NOMINAL



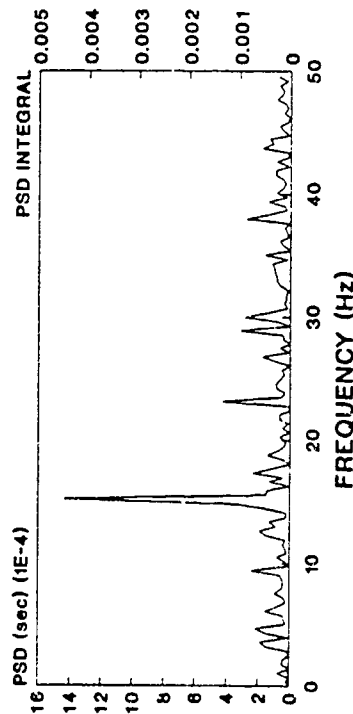
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FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



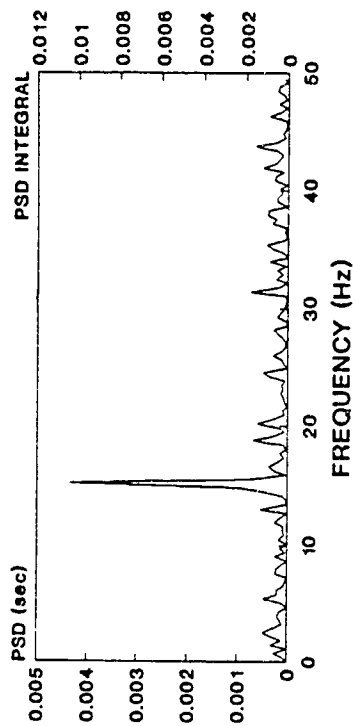
RECTANGLE - THETA 00 - AZIMUTH - 060

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



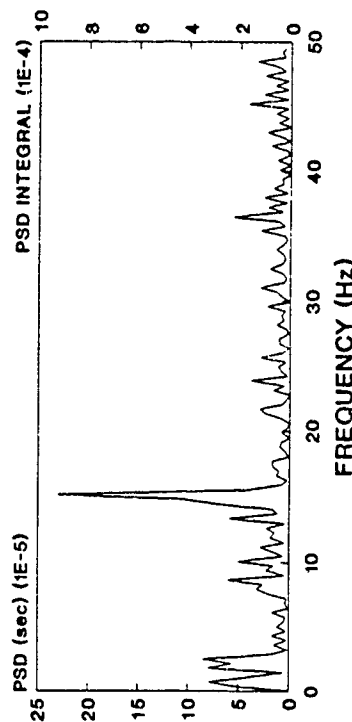
RECTANGLE - THETA 00 - AZIMUTH - 060

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



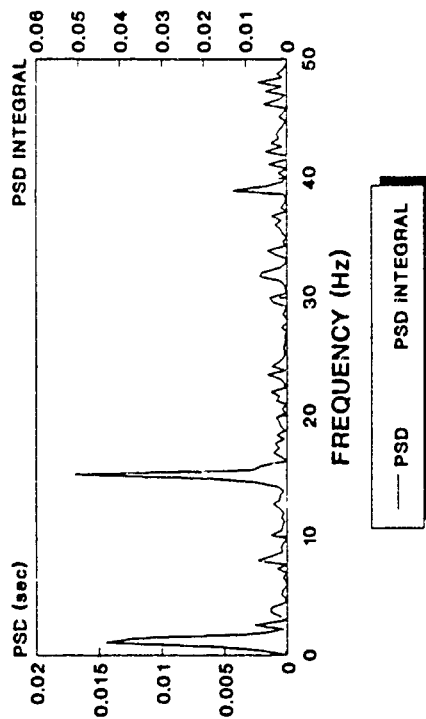
RECTANGLE - THETA 00 - AZIMUTH - 060

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



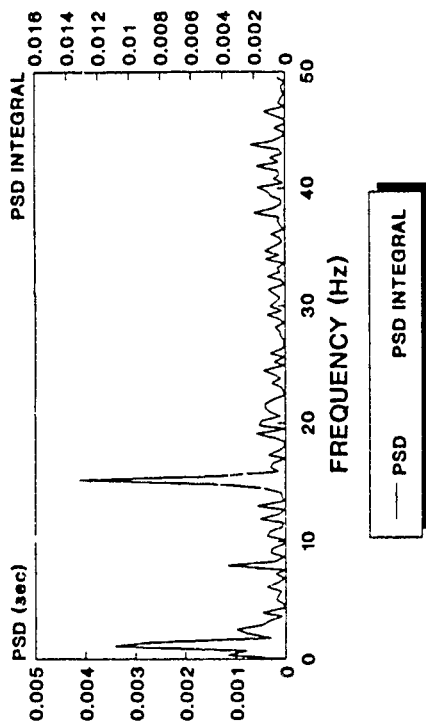
RECTANGLE - THETA 00 - AZIMUTH - 060

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



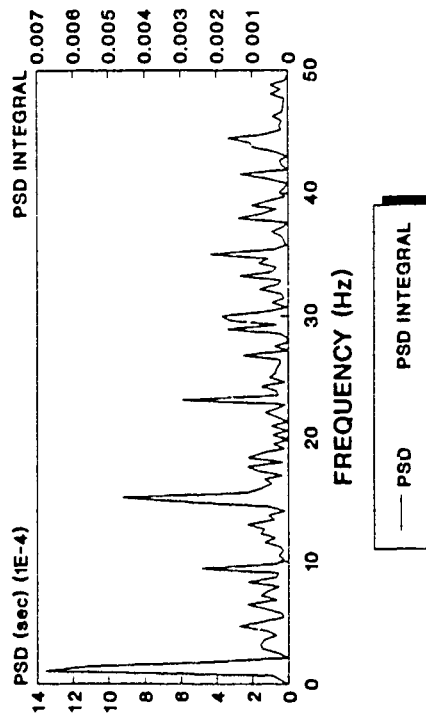
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MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



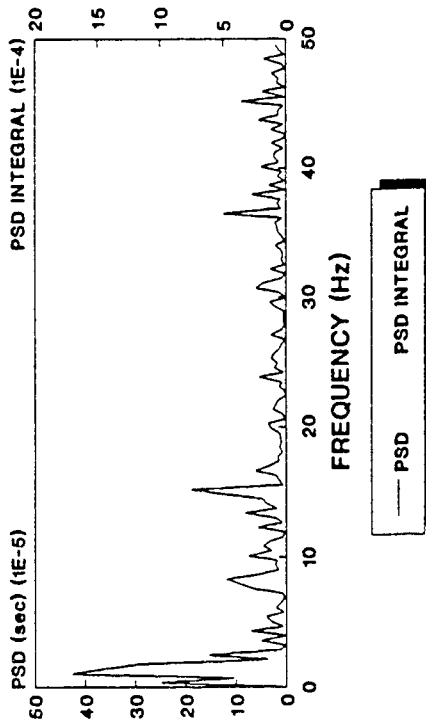
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MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



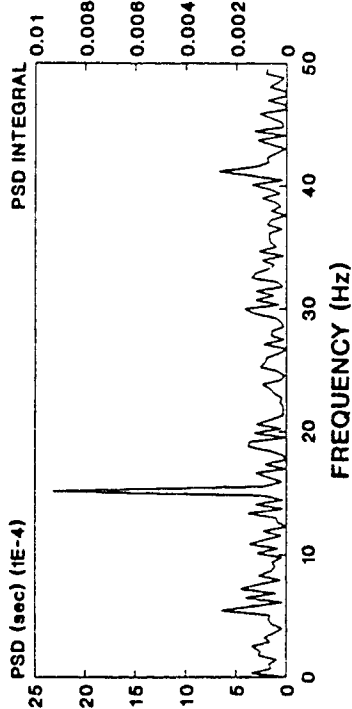
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MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



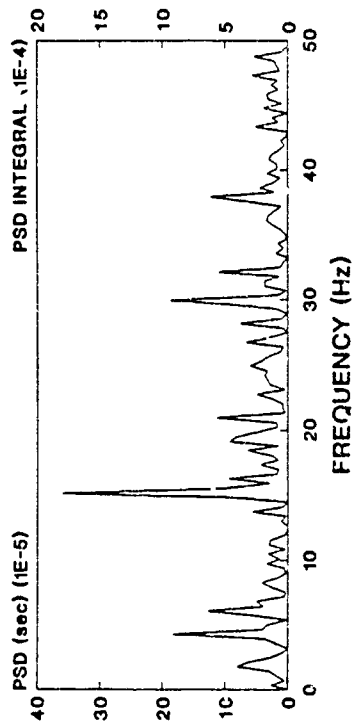
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FORCE COEFF - YAW 60 FT/SEC NOMINAL



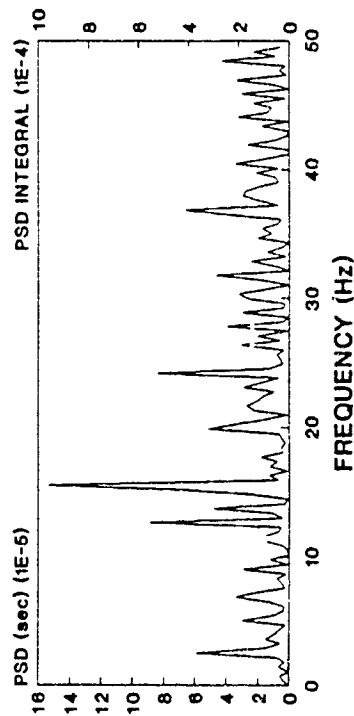
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FORCE COEFF - YAW 90 FT/SEC NOMINAL



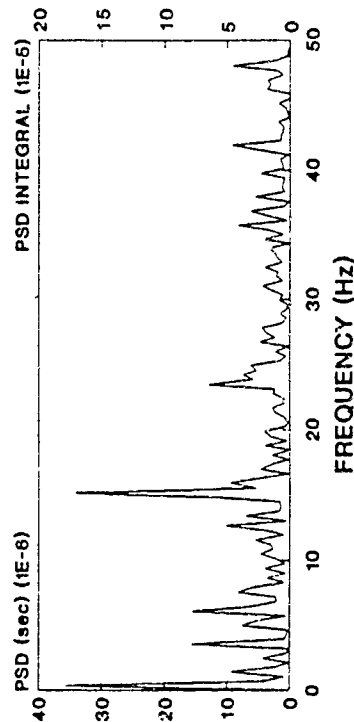
RECTANGLE - THETA 00 - AZIMUTH - 060

FORCE COEFF - YAW 120 FT/SEC NOMINAL



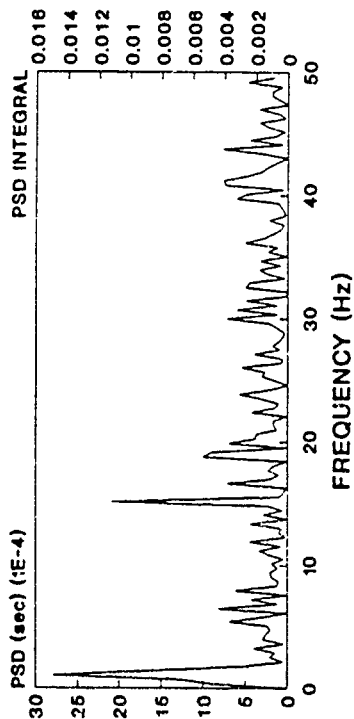
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FORCE COEFF - YAW 180 FT/SEC NOMINAL



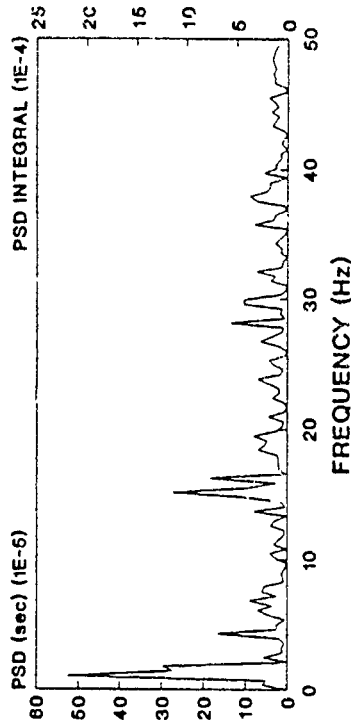
RECTANGLE - THETA 00 - AZIMUTH - 060

MOMENT COEFF - YAW 60 FT/SEC NOMINAL



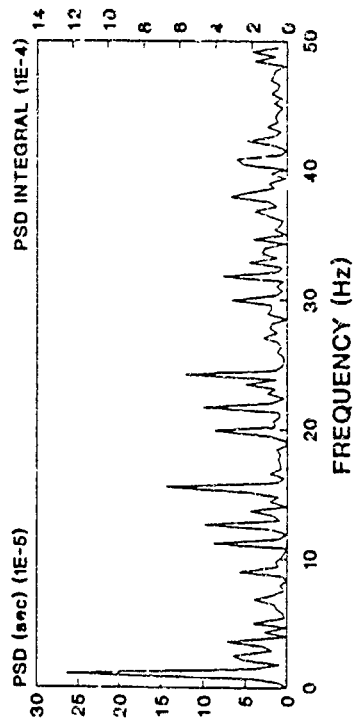
RECTANGLE - THETA 00 - AZIMUTH - 080

MOMENT COEFF - YAW 90 FT/SEC NOMINAL



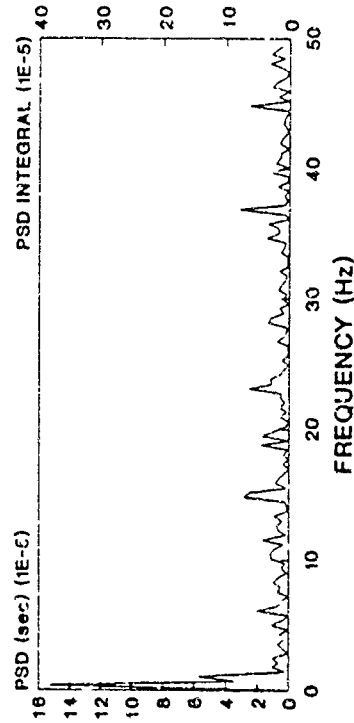
RECTANGLE - THETA 00 - AZIMUTH - 080

MOMENT COEFF - YAW 120 FT/SEC NOMINAL



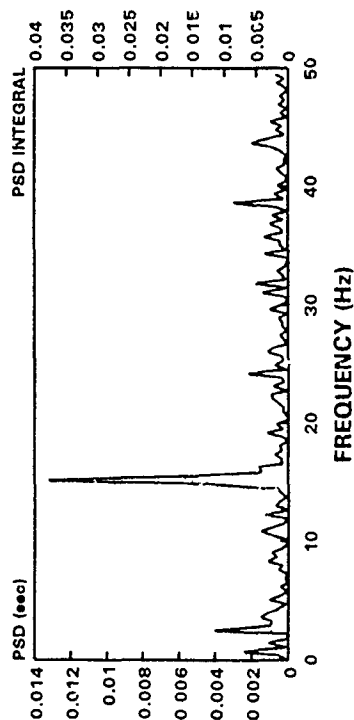
RECT. ANGLE - THETA 00 - AZIMUTH - 080

MOMENT COEFF - YAW 180 FT/SEC NOMINAL



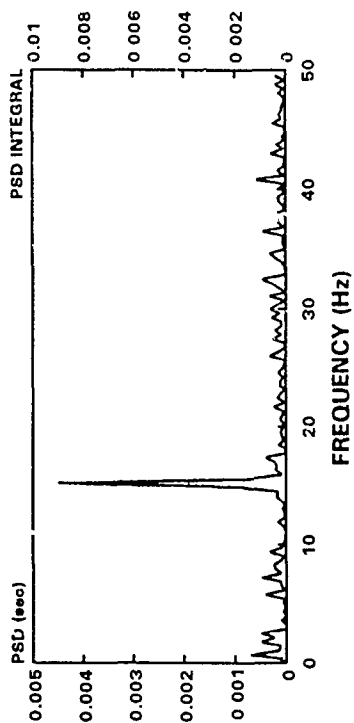
RECTANGLE - THETA 00 - AZIMUTH - 080

FORCE COEFF - NORMAL **60 FT/SEC NOMINAL**



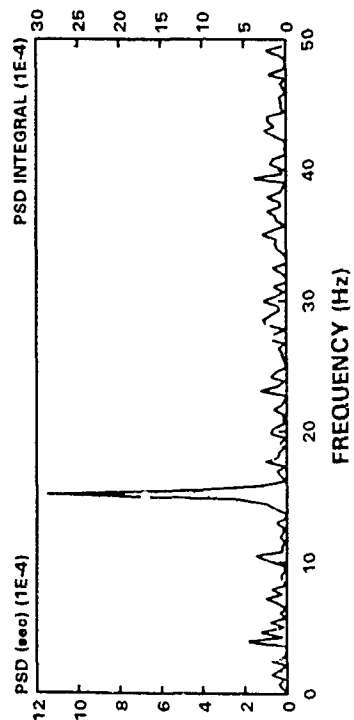
RECTANGLE - THETA 00 - AZIMUTH - 090

FORCE COEFF - NORMAL **90 FT/SEC NOMINAL**



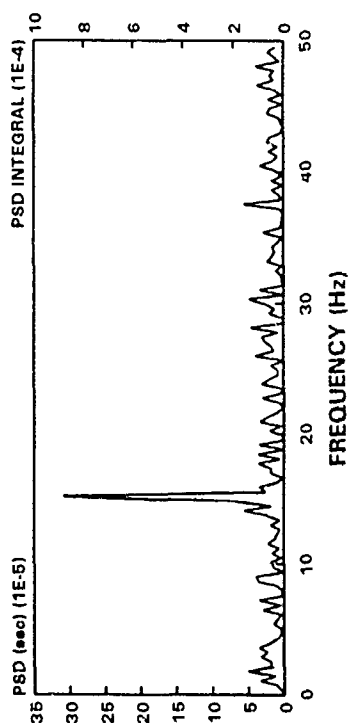
RECTANGLE - THETA 00 - AZIMUTH - 090

FORCE COEFF - NORMAL **120 FT/SEC NOMINAL**



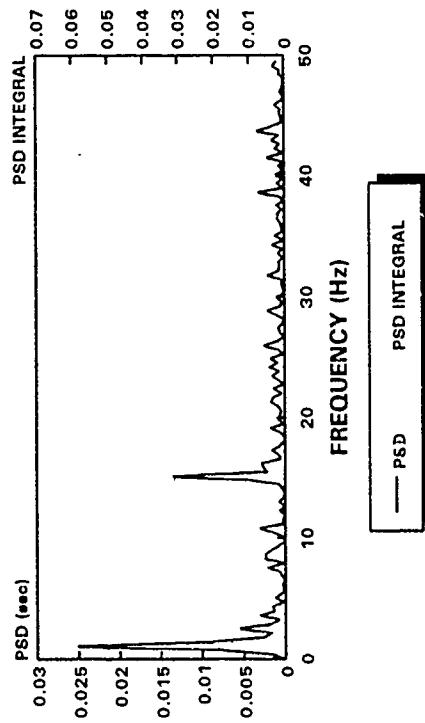
RECTANGLE THETA 00 - AZIMUTH - 090

FORCE COEFF - NORMAL **180 FT/SEC NOMINAL**



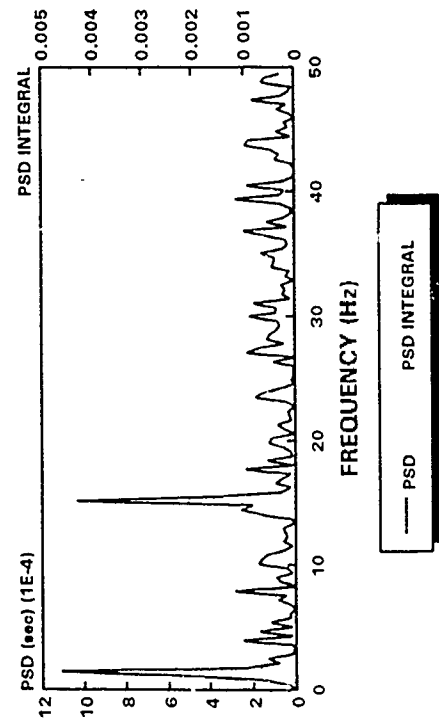
RECTANGLE - THETA 00 - AZIMUTH - 090

MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



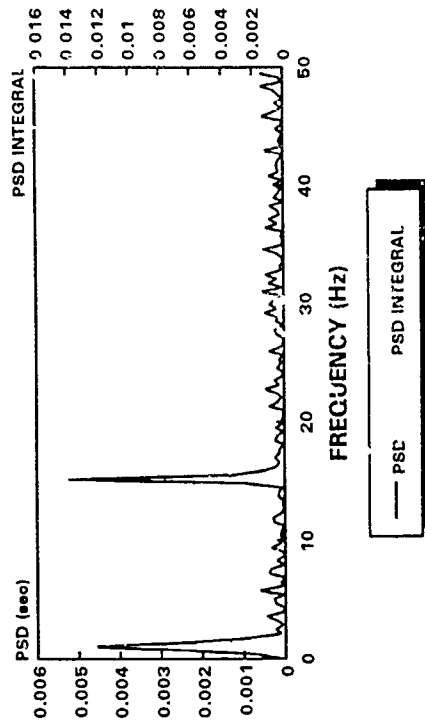
RECTANGLE - THETA 00 - AZIMUTH - 090

MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



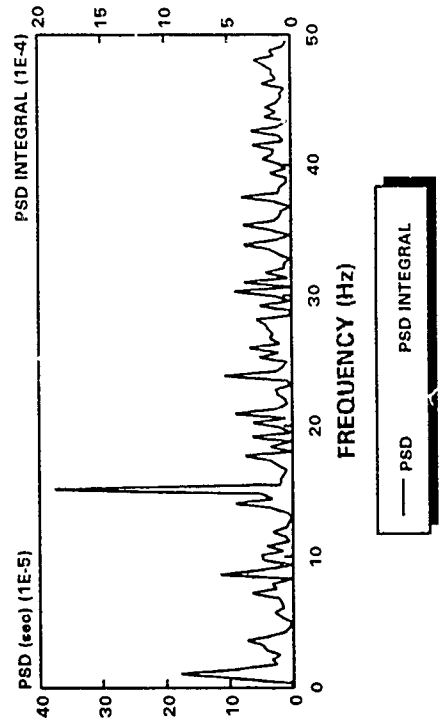
RECTANGLE - THETA 00 - AZIMUTH - 090

MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



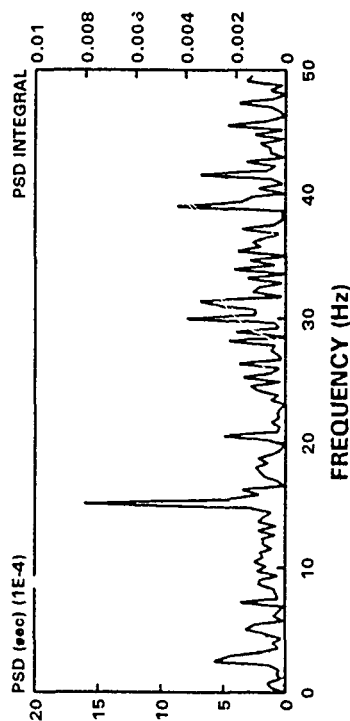
RECTANGLE - THETA 00 - AZIMUTH - 090

MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



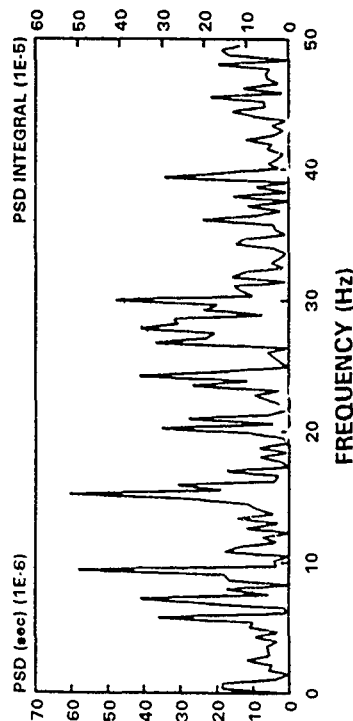
RECTANGLE - THETA 00 - AZIMUTH - 090

FORCE COEFF - YAW **60 FT/SEC NOMINAL**



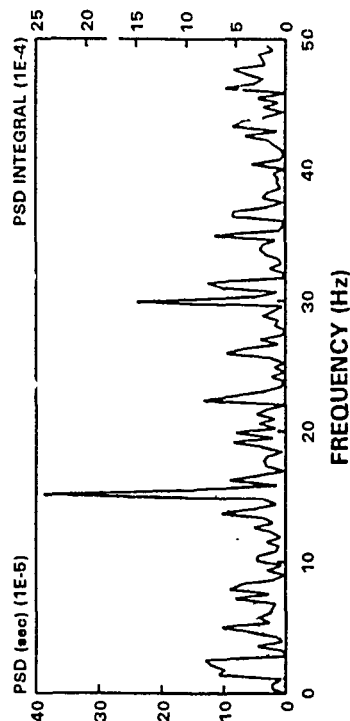
RECTANGLE - THETA 00 - AZIMUTH - 090

FORCE COEFF - YAW **120 FT/SEC NOMINAL**



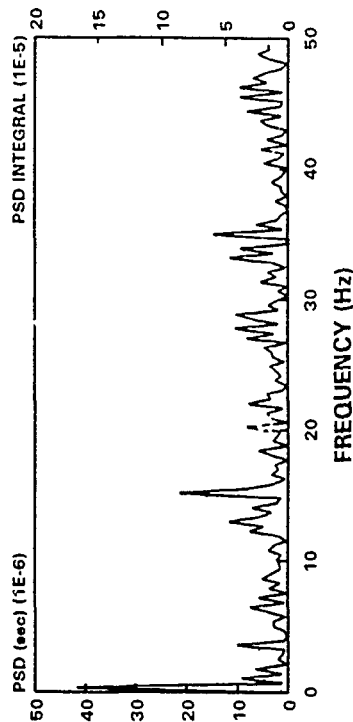
RECTANGLE - T-ETA 00 - AZIMUTH - 090

FORCE COEFF - YAW **90 FT/SEC NOMINAL**



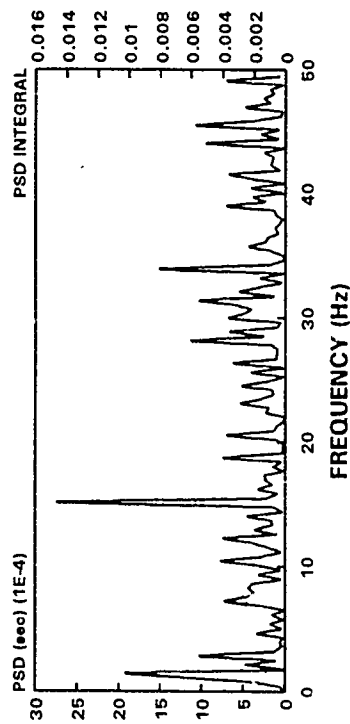
RECTANGLE - THETA 00 - AZIMUTH - 090

FORCE COEFF - YAW **180 FT/SEC NOMINAL**



RECTANGLE - THETA 00 - AZIMUTH - 090

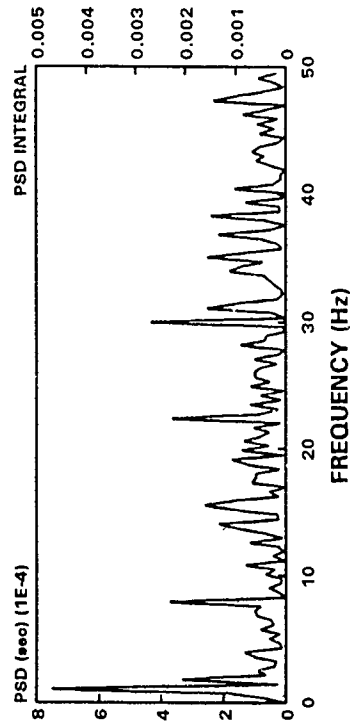
MOMENT COEFF - YAW **60 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 090

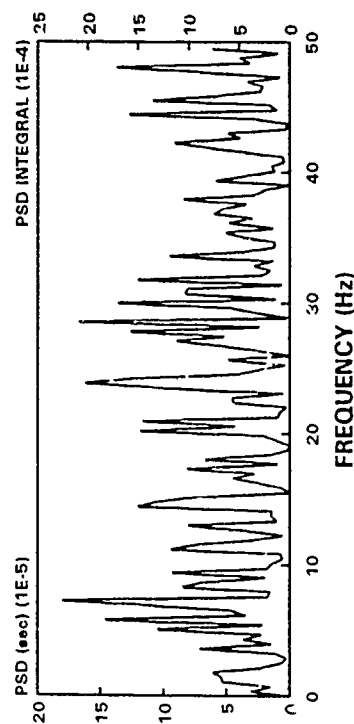
MOMENT COEFF - YAW **90 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 090

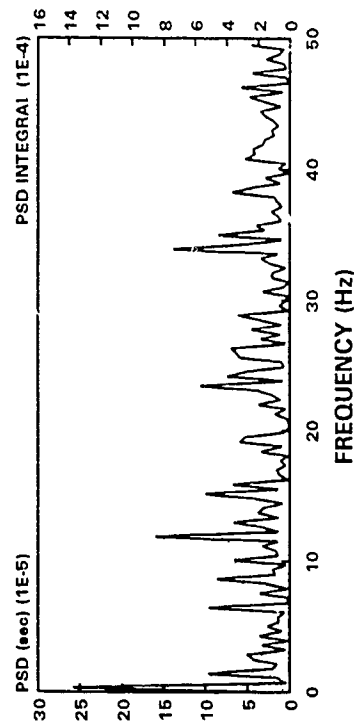
MOMENT COEFF - YAW **120 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 090

MOMENT COEFF - YAW **180 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 00 - AZIMUTH - 090

DATA REPORT

SHAPE:	RECTANGLE
DECLINATION [THETA (degrees)]:	30
DIMENSIONS [LxWxH (in)]:	9.13 x 4.06 x 8.69
WEIGHT (gm):	755.8
TORSION FREQUENCY (Hz):	50
LATERAL (SIDE BEND) FREQUENCY (Hz):	78
NORMAL (AFT BEND) FREQUENCY (Hz):	110
AZIMUTHS (degrees):	0, 30, 45, 60, 90, 120, 135, 150, 180

GRAPH CORRECTIONS:

- The mean value of the **ROLL** moment coefficients should be divided by 12.
- The PSD and PSD Integral values of the **ROLL** moment coefficients should be divided by 144.

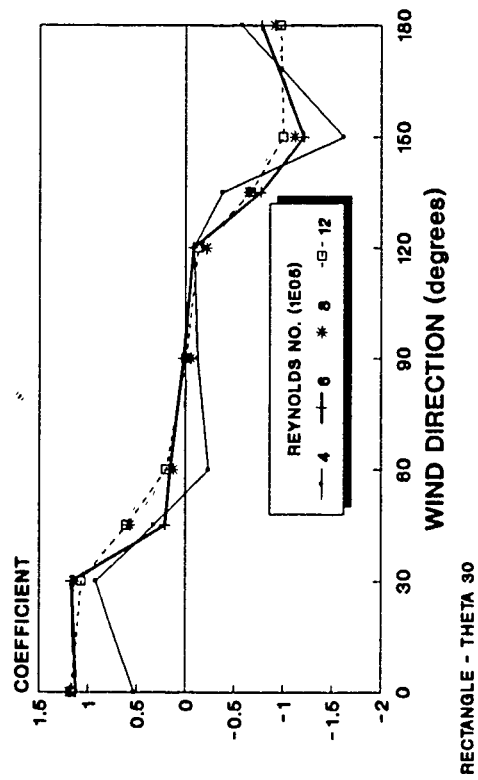
OBSERVATIONS:

- Very good shedding is seen in the normal data at 90 degrees azimuth.
- Good shedding can be seen in the lateral data at 45 degrees azimuth, and in the normal, lateral, and roll data at 120 degrees azimuth.
- Poor shedding can be seen in the lateral data at 0 degrees, and in the normal moment data at 30 degrees azimuth.
- Compare the shedding frequencies for 0 and 90 degrees at wind speed of 90 ft/sec. Although poor quality, the lateral moment data at 0 degrees seems to have a center frequency near 25 Hz for the 90 ft/sec

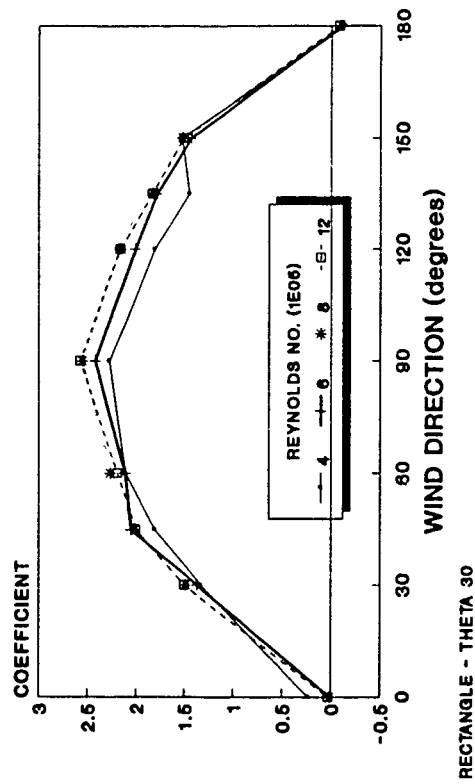
case. At 90 degrees the normal moment data tends to peak near 16 Hz for the same wind speed. This change in frequency is expected, assuming a constant Strouhal number, due to the change in cross section presented to the flow as the rectangle is rotated from 0 to 90 degrees.

- 15.176 Hz spike occasionally observed in the data.

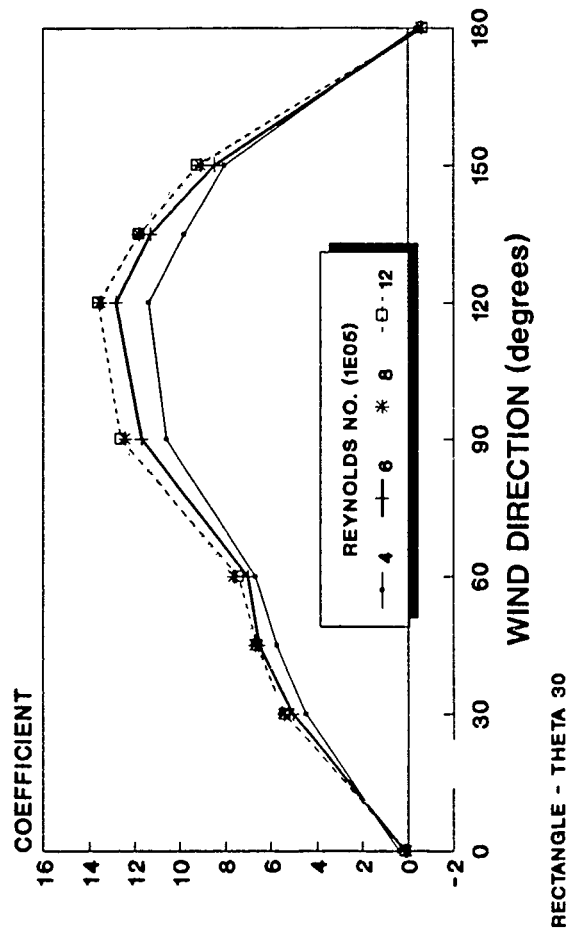
MEAN FORCE COEFFICIENT NORMAL DIRECTION



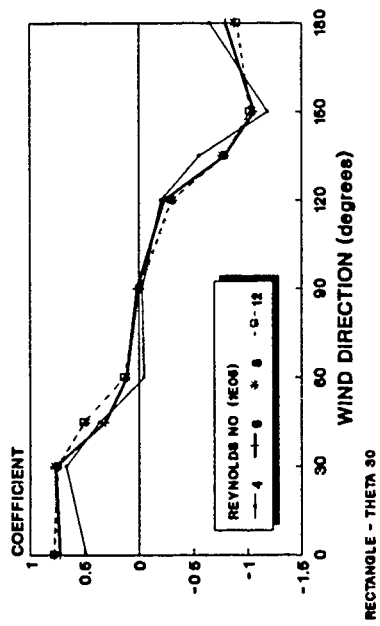
MEAN FORCE COEFFICIENT LATERAL DIRECTION



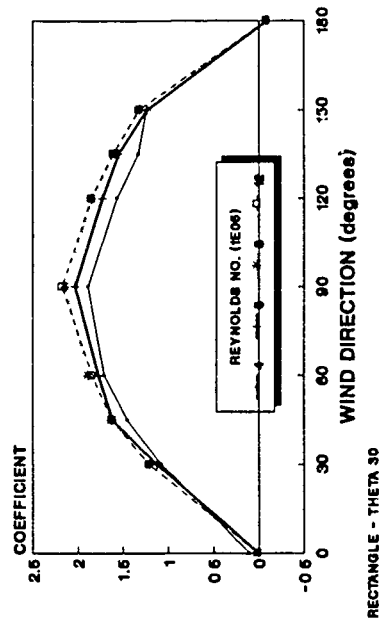
MEAN MOMENT COEFFICIENT ROLL DIRECTION



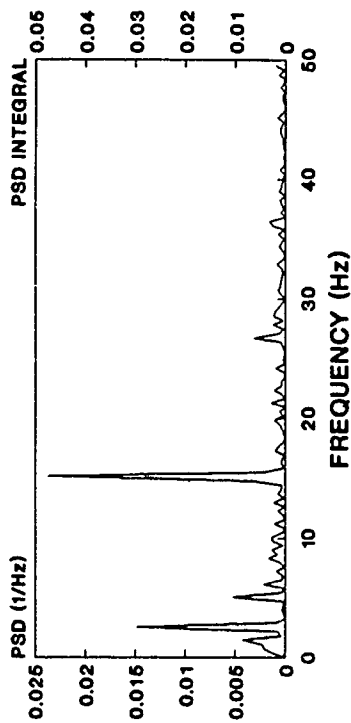
MEAN MOMENT COEFFICIENT NORMAL DIRECTION



MEAN MOMENT COEFFICIENT LATERAL DIRECTION

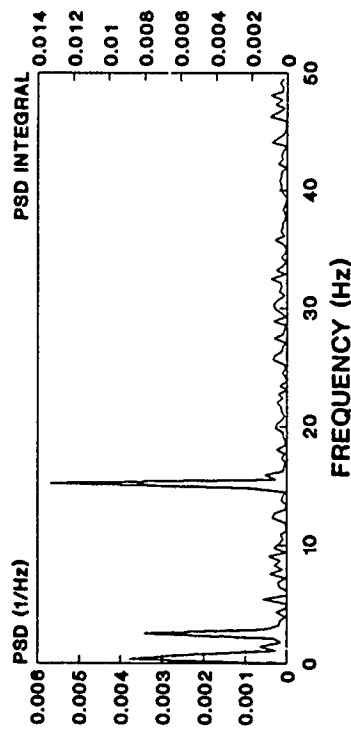


FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



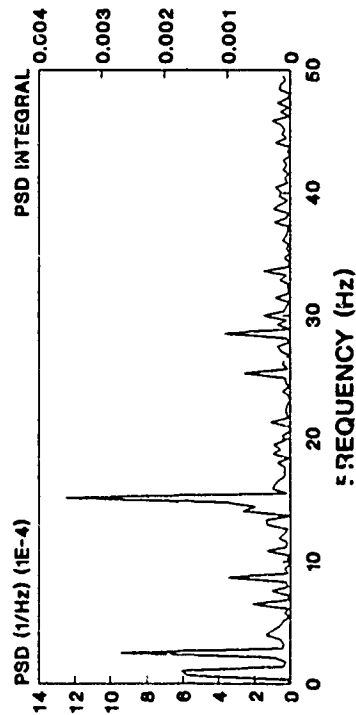
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



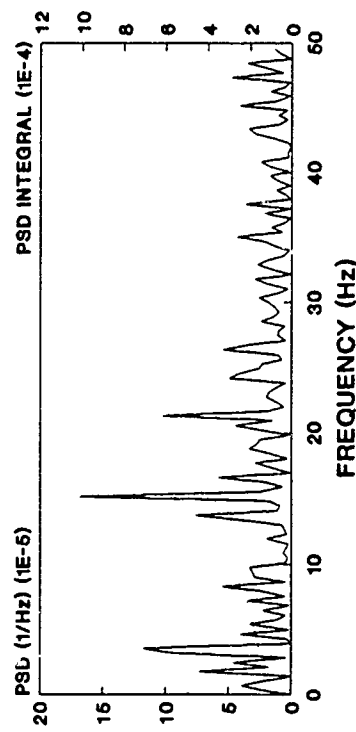
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



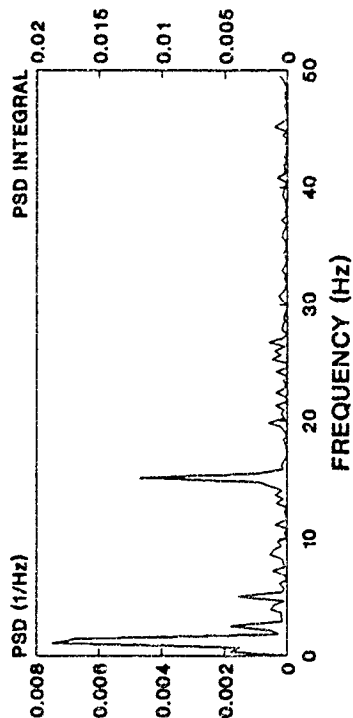
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



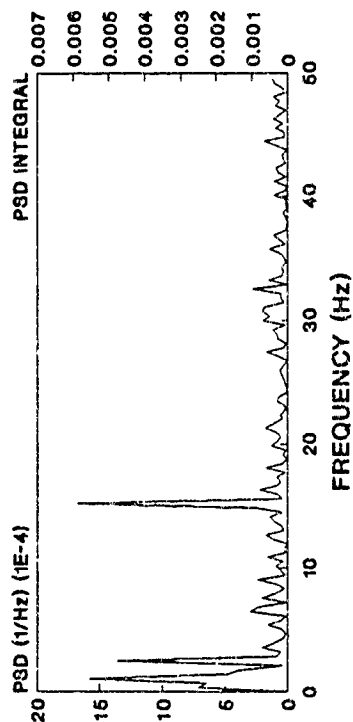
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



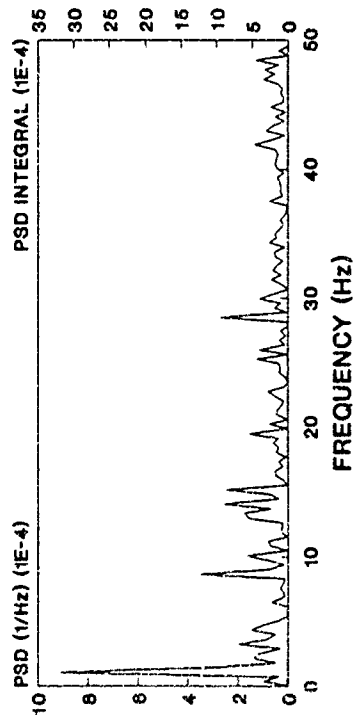
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



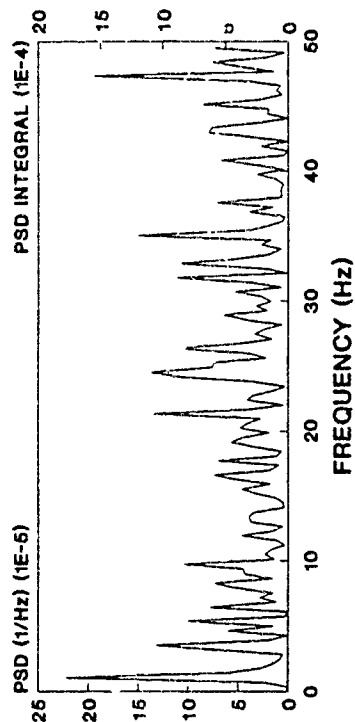
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



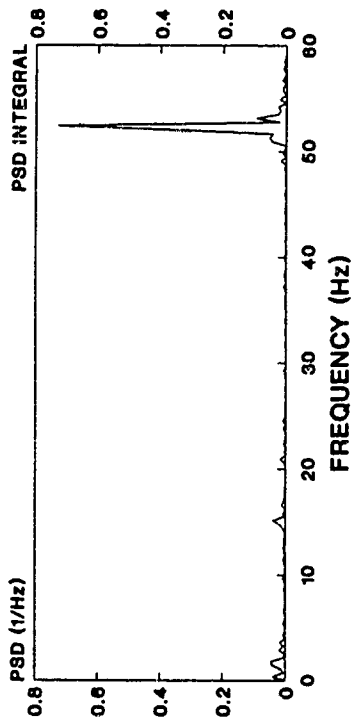
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



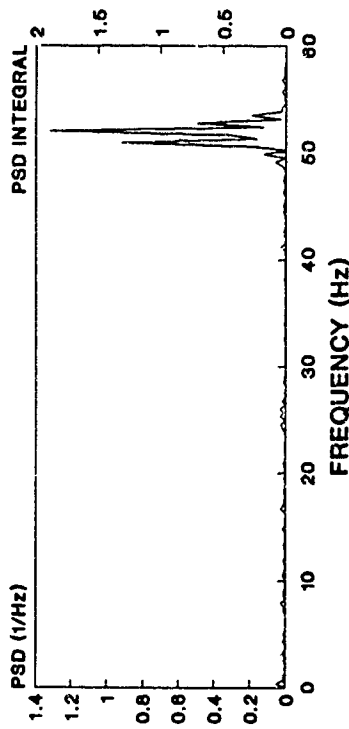
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



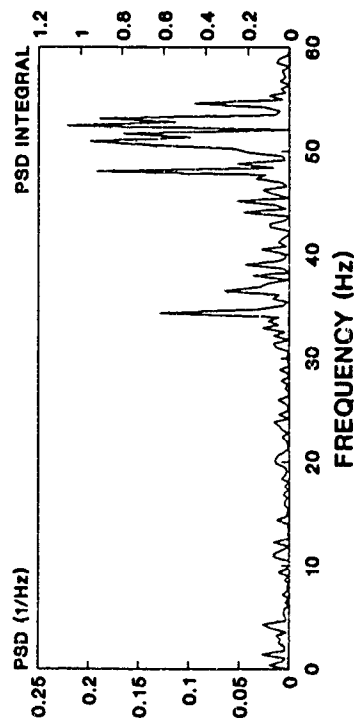
RECTANGLE - HT 8.89 - THETA 30 - AZ 030

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



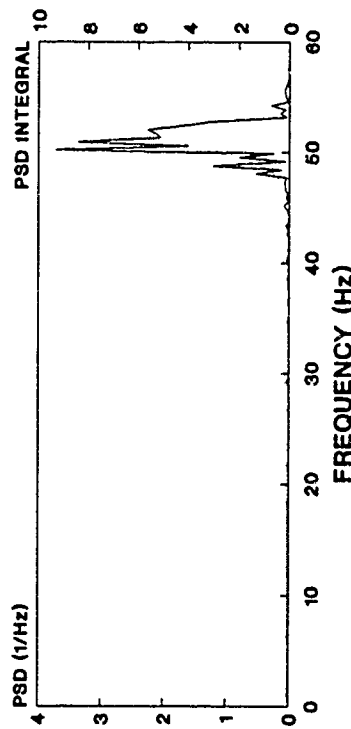
RECTANGLE - HT 8.89 - THETA 30 - AZ 030

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



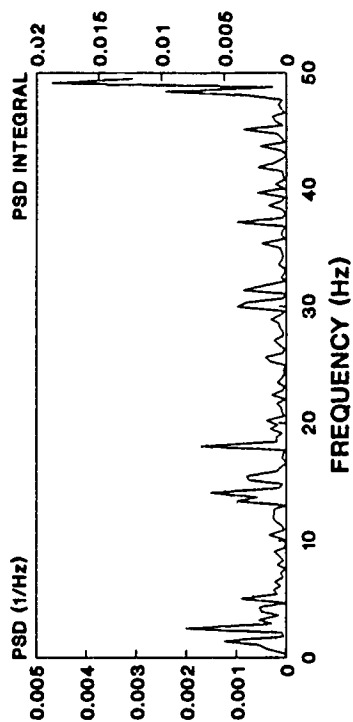
RECTANGLE - HT 8.89 - THETA 30 - AZ 030

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.89 - THETA 30 - AZ 030

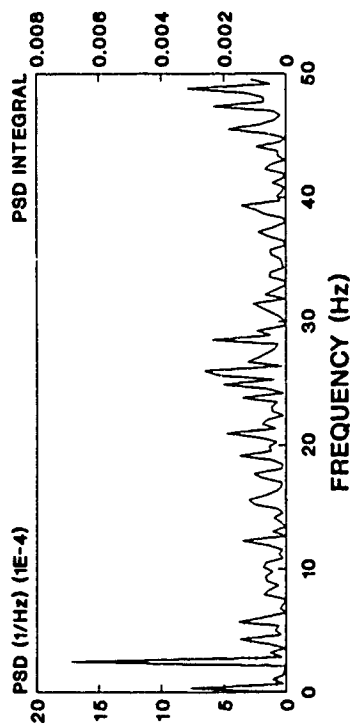
FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.89 - THETA 30 - AZ 000

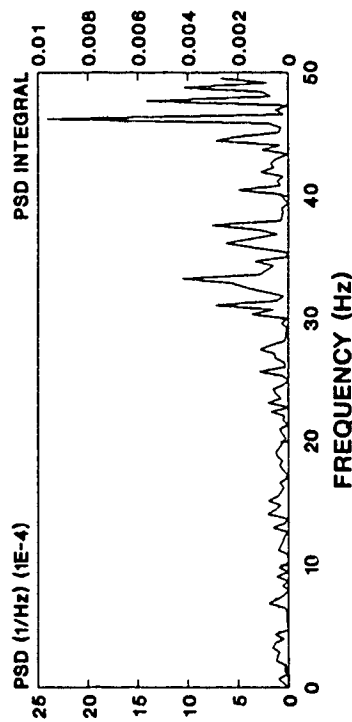
FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.89 - THETA 30 - AZ 000

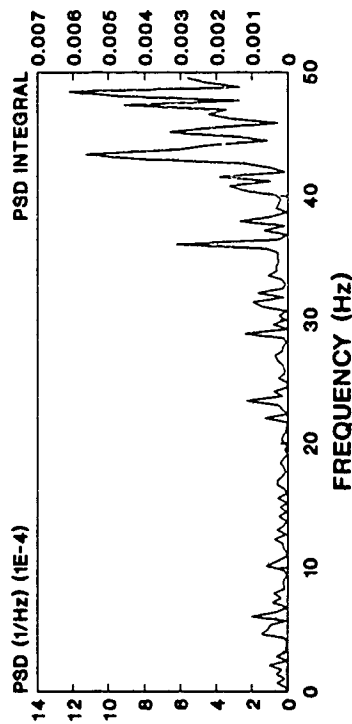
FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.89 - THETA 30 - AZ 000

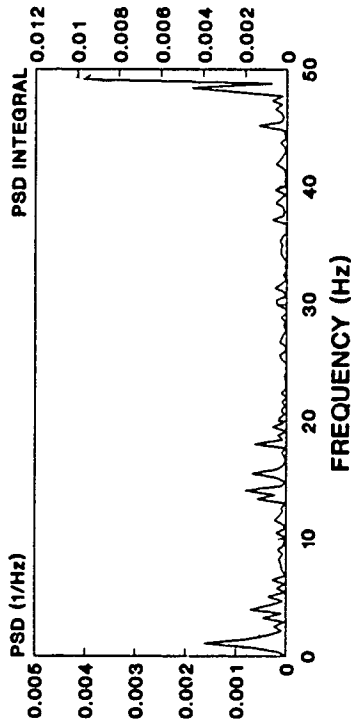
FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

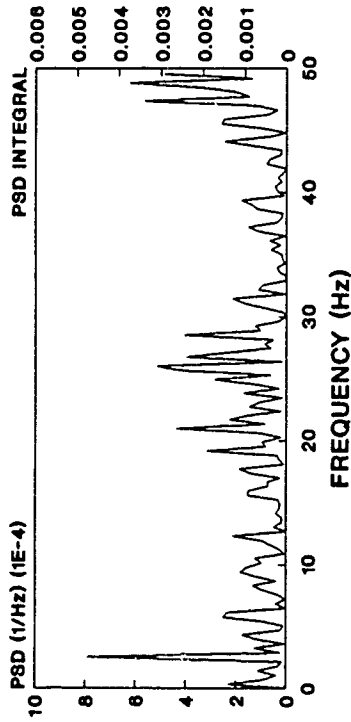
RECTANGLE - HT 8.89 - THETA 30 - AZ 000

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



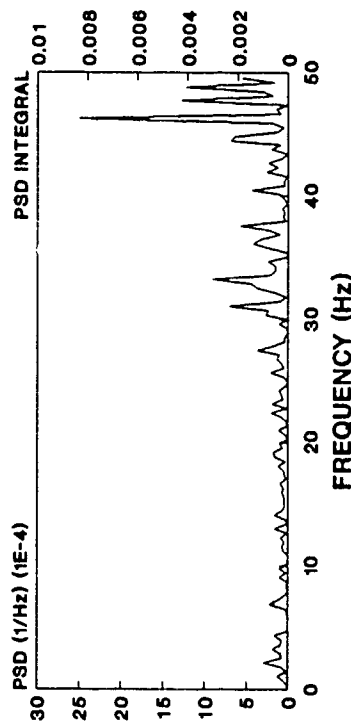
RECTANGLE - HT 8.69 - THETA 30 - AZ 000

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



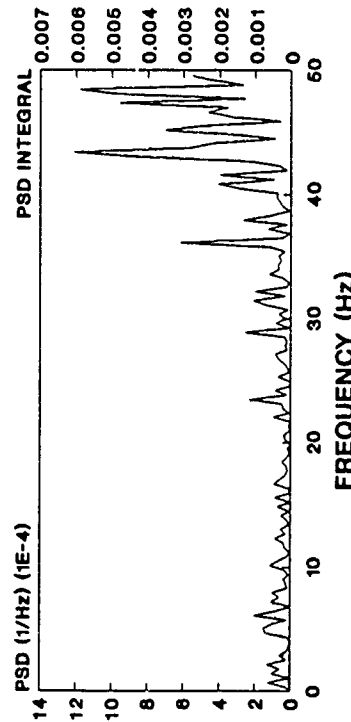
RECTANGLE - HT 8.69 - THETA 30 - AZ 000

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



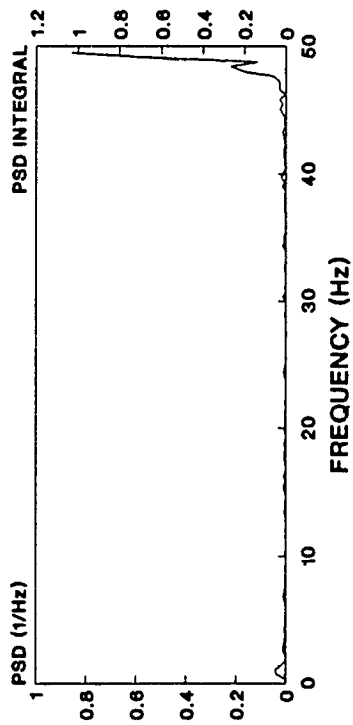
RECTANGLE - HT 8.69 - THETA 30 - AZ 000

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



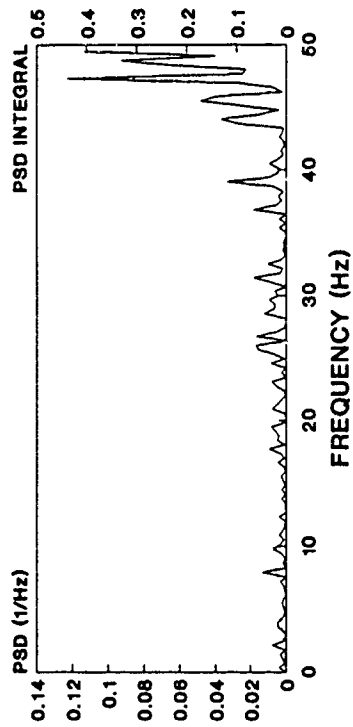
RECTANGLE - HT 8.69 - THETA 30 - AZ 000

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



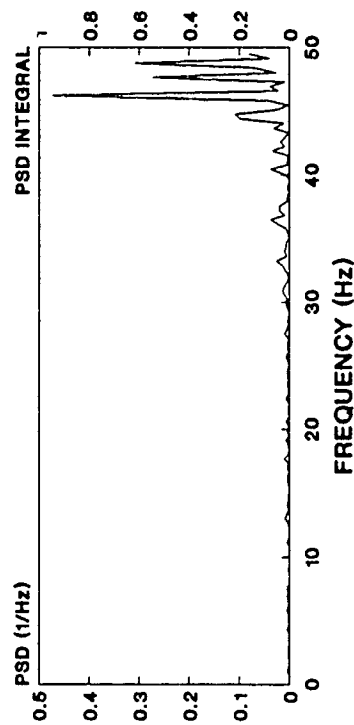
RECTANGLE - HT 8 89 - THETA 30 - AZ 000

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



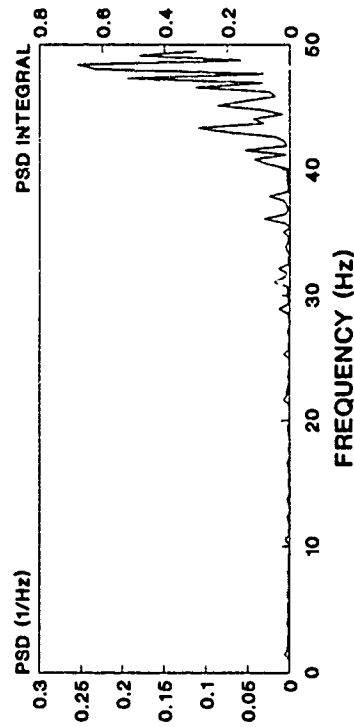
RECTANGLE - HT 8 89 - THETA 30 - AZ 000

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



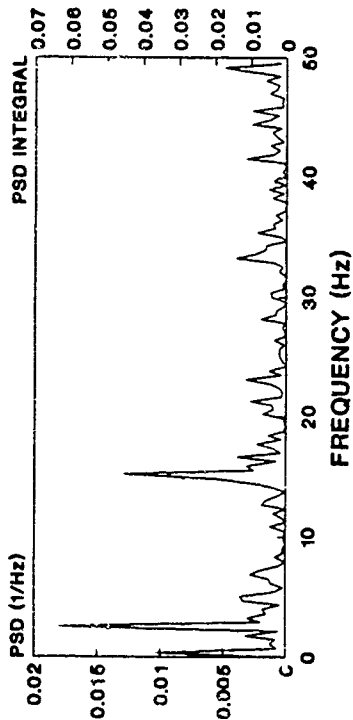
RECTANGLE - HT 8 89 - THETA 30 - AZ 000

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



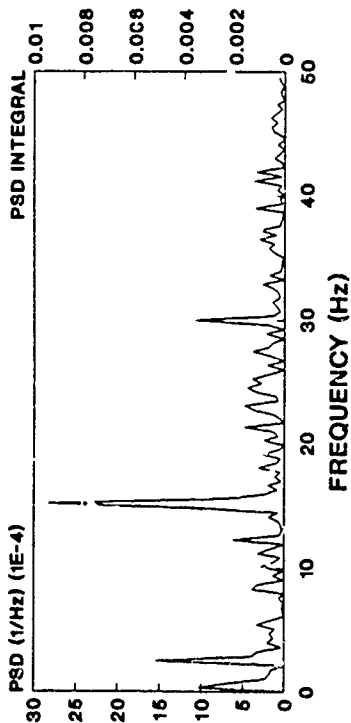
RECTANGLE - HT 8 89 - THETA 30 - AZ 000

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



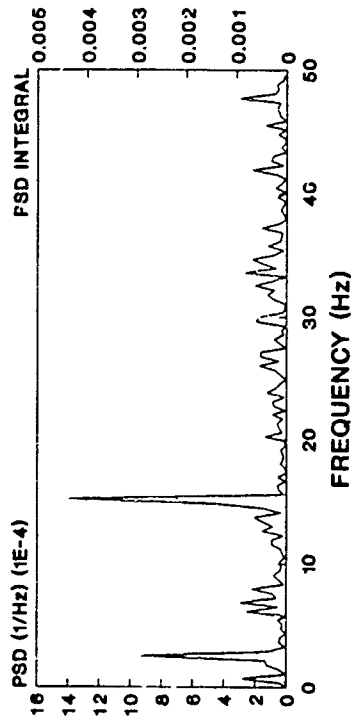
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



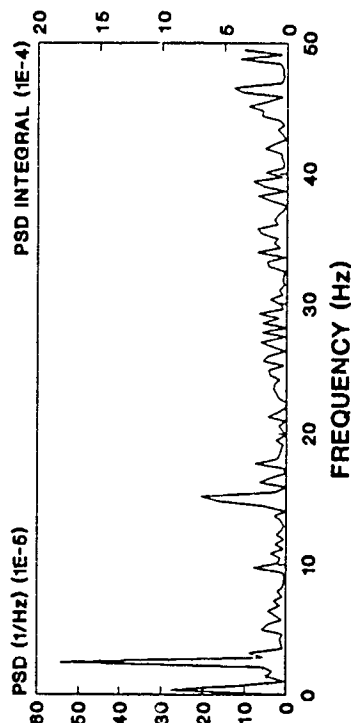
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



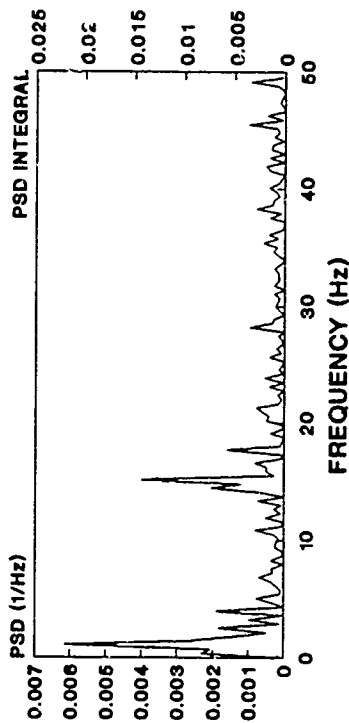
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



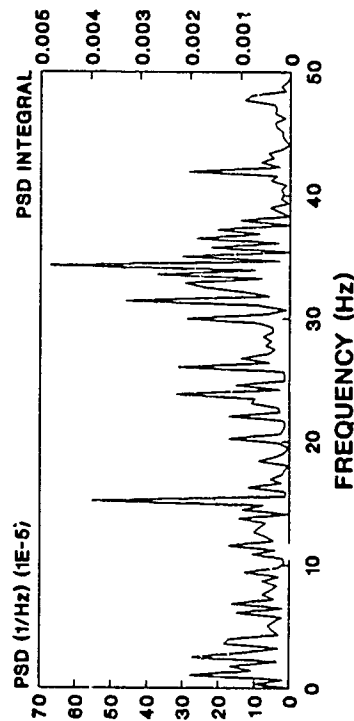
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



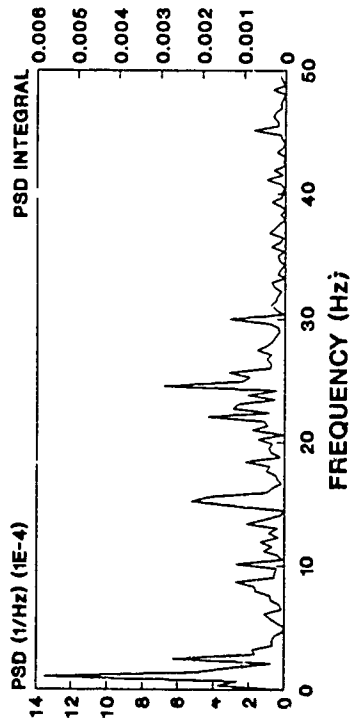
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



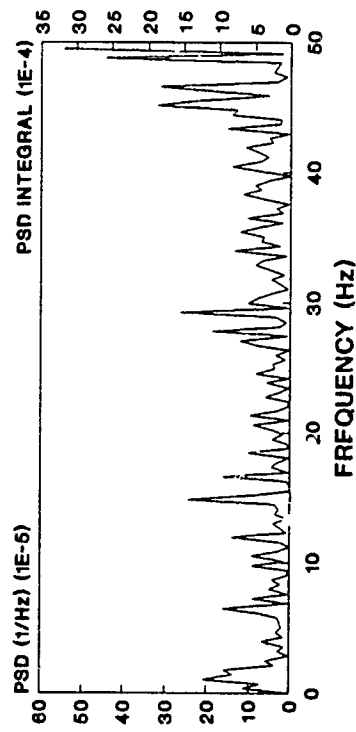
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



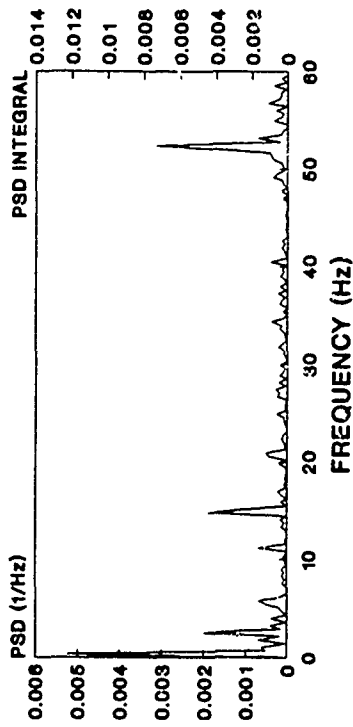
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



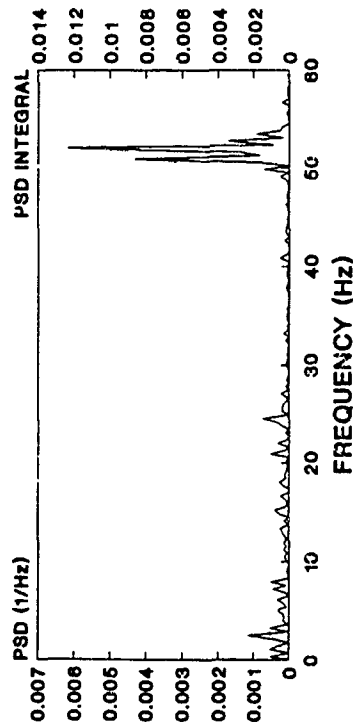
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



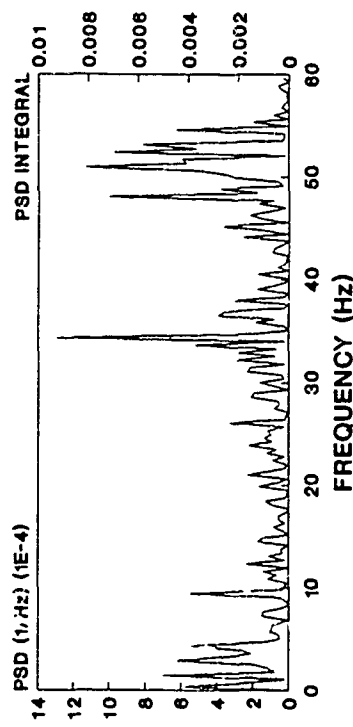
RECTANGLE - HT 8.89 - THETA 30 - AZ 030

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



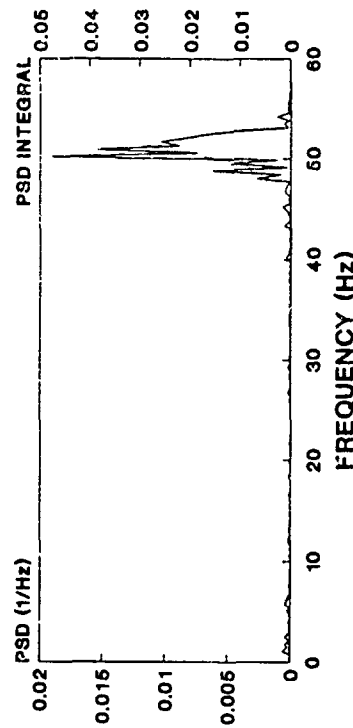
RECTANGLE - HT 8.89 - THETA 30 - AZ 030

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



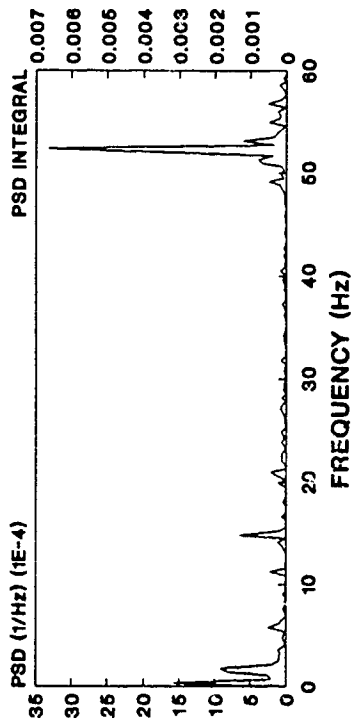
RECTANGLE - HT 8.89 - THETA 30 - AZ 030

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



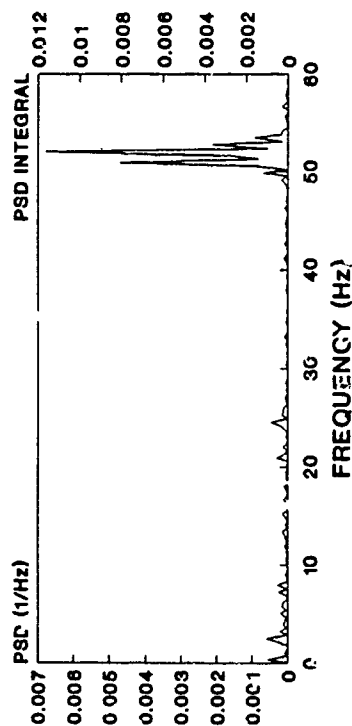
RECTANGLE - HT 8.89 - THETA 30 - AZ 030

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



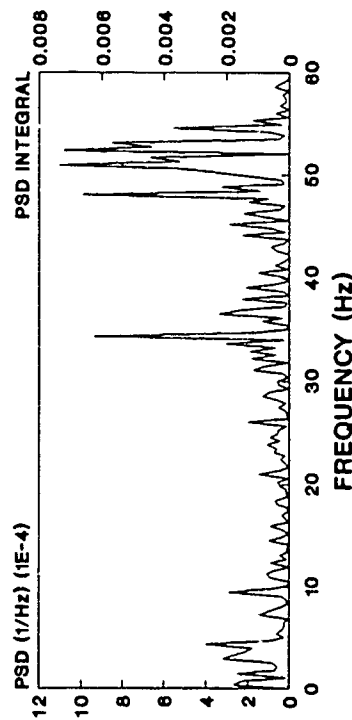
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



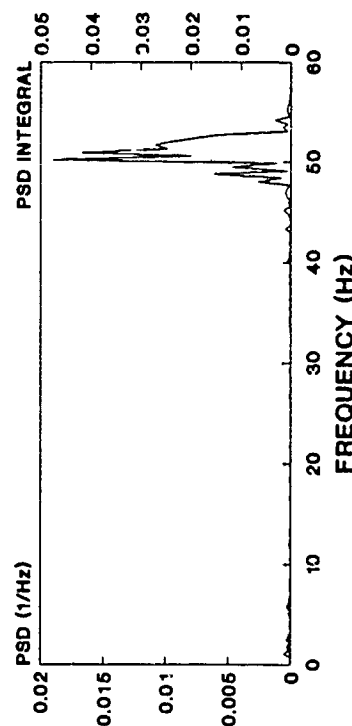
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



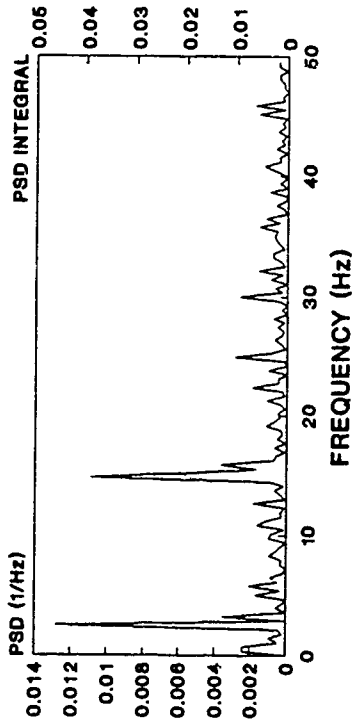
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



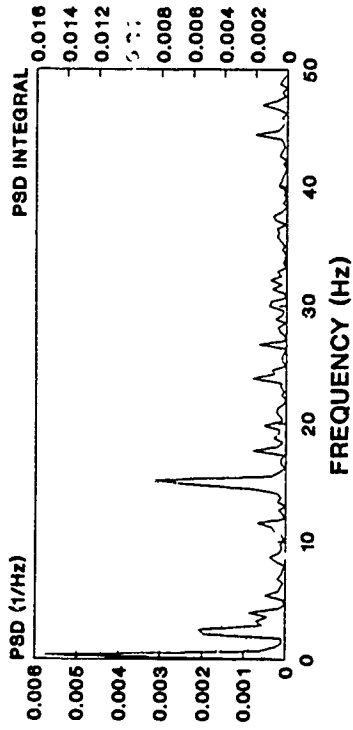
RECTANGLE - HT 8.69 - THETA 30 - AZ 030

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



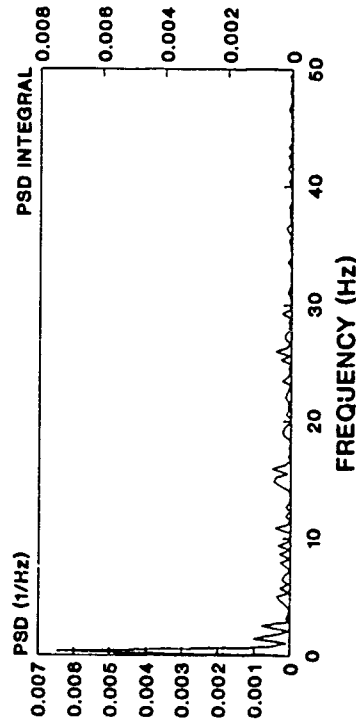
RECTANGLE - HT 8.89 - THETA 30 - AZ 045

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



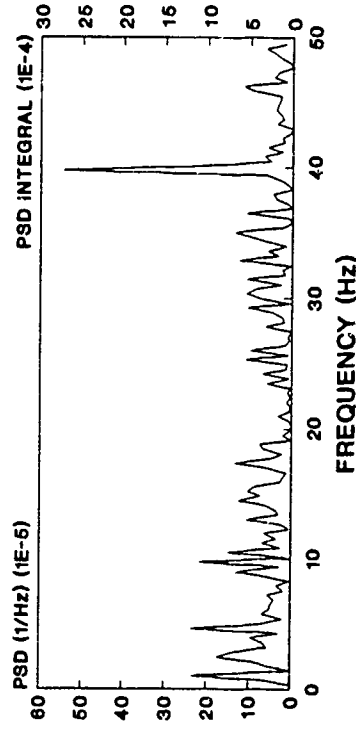
RECTANGLE - HT 8.89 - THETA 30 - AZ 045

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



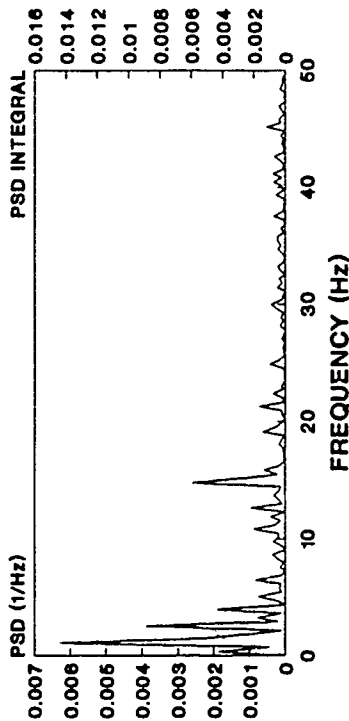
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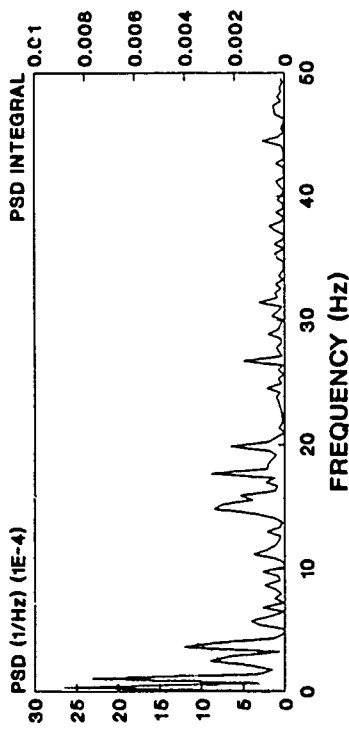
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MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



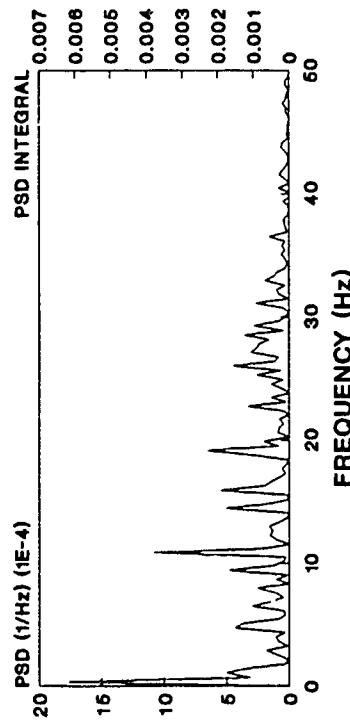
RECTANGLE - HT 6.69 - THETA 30 - AZ 046

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



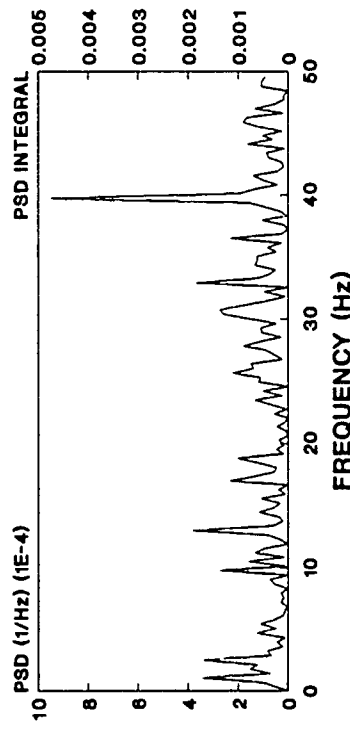
RECTANGLE - HT 6.69 - THETA 30 - AZ 046

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



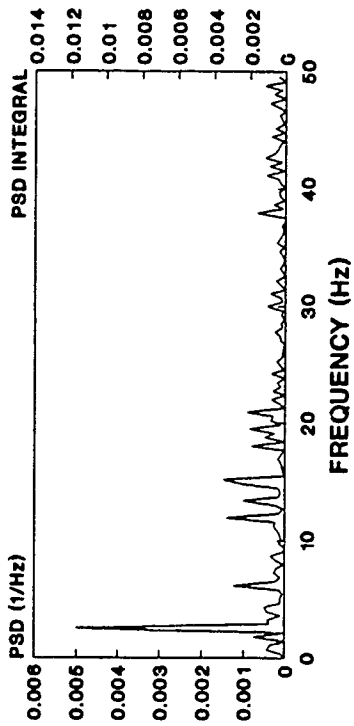
RECTANGLE - HT 6.69 - THETA 30 - AZ 046

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



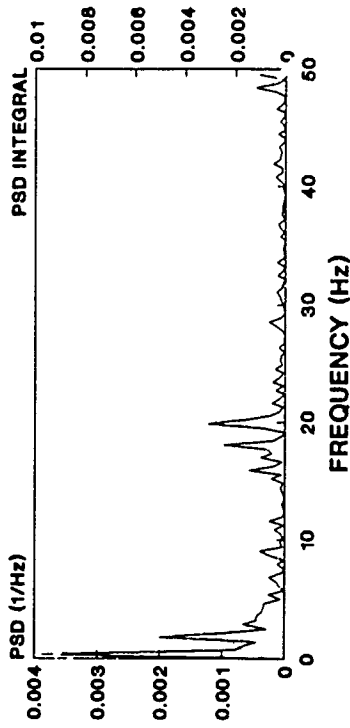
RECTANGLE - HT 6.69 - THETA 30 - AZ 046

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



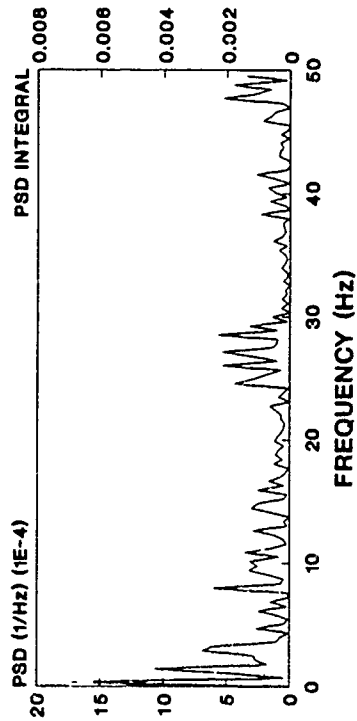
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



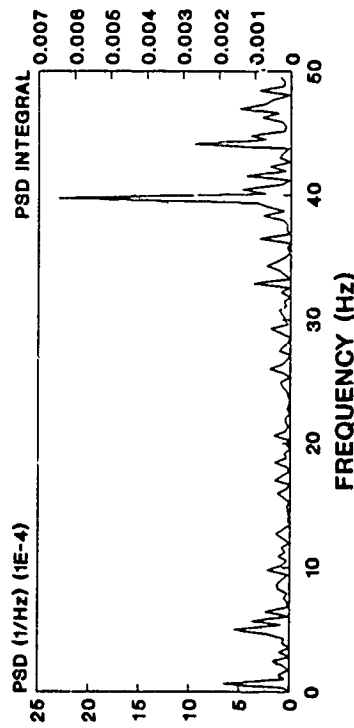
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



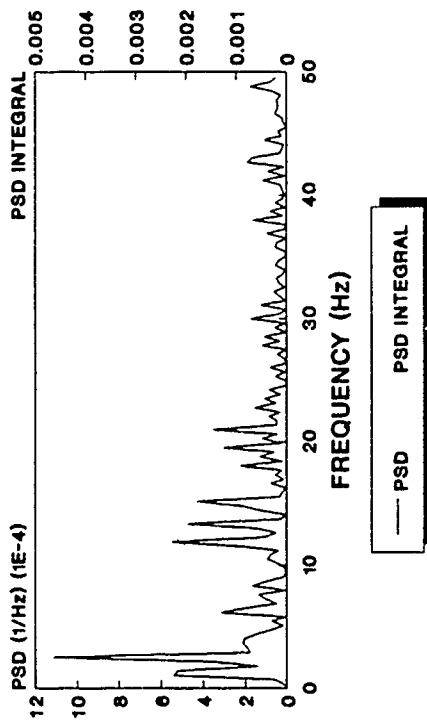
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



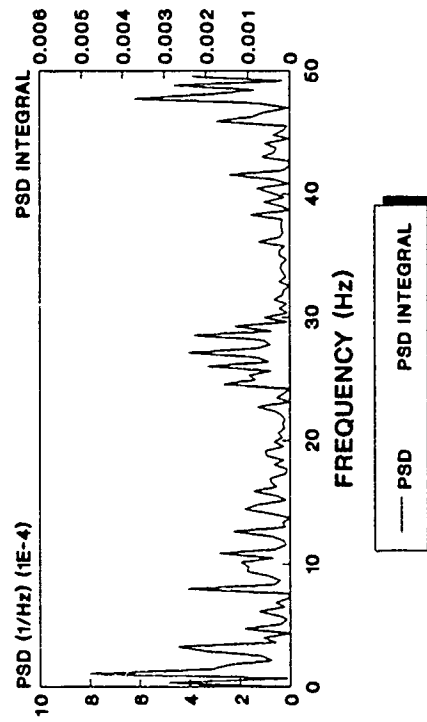
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



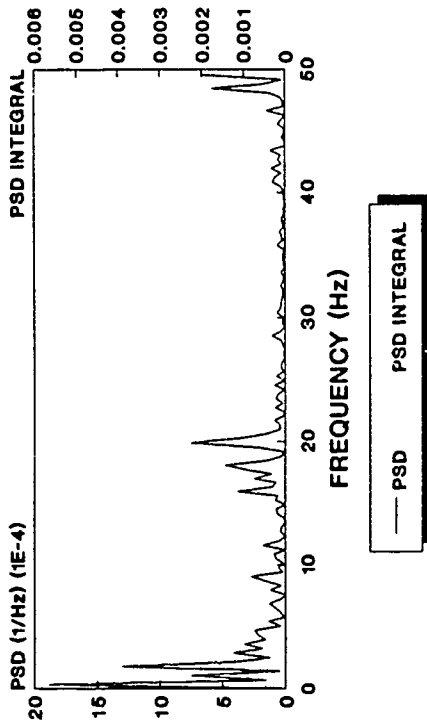
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



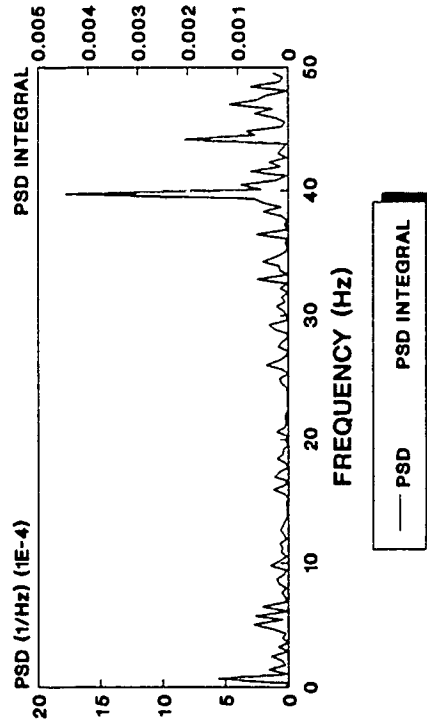
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



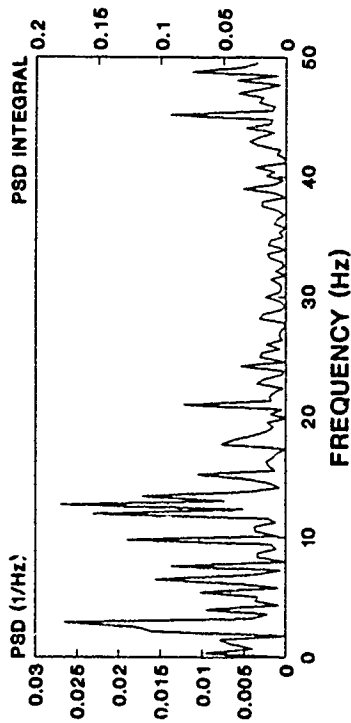
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



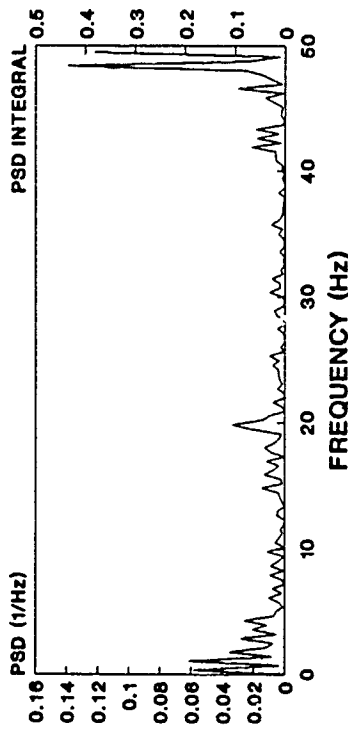
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



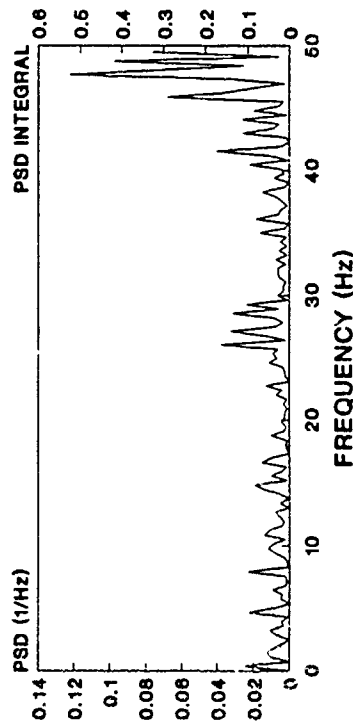
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



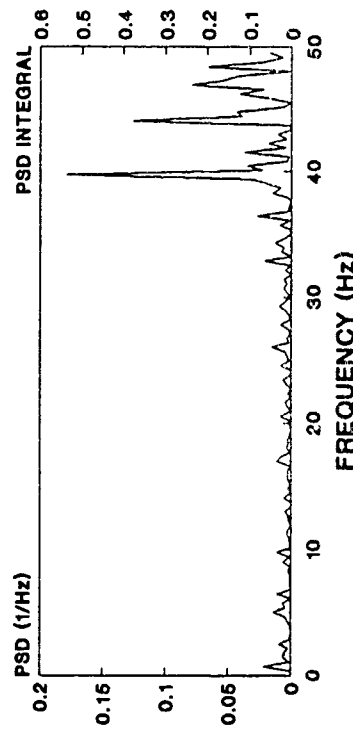
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



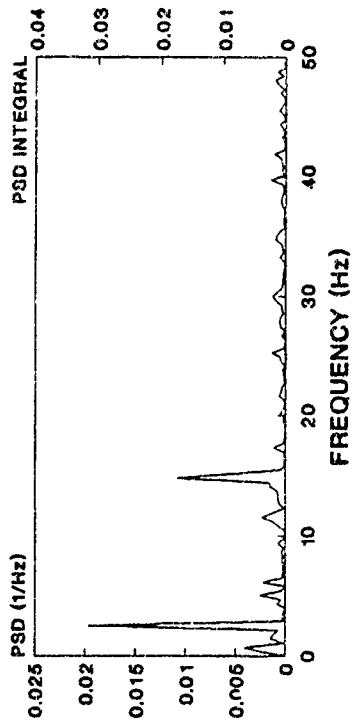
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



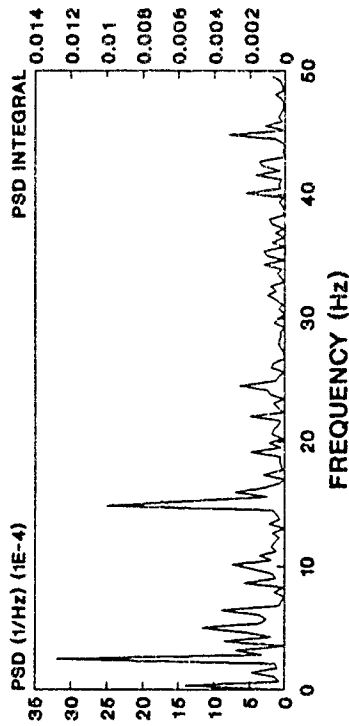
RECTANGLE - HT 8.69 - THETA 30 - AZ 046

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



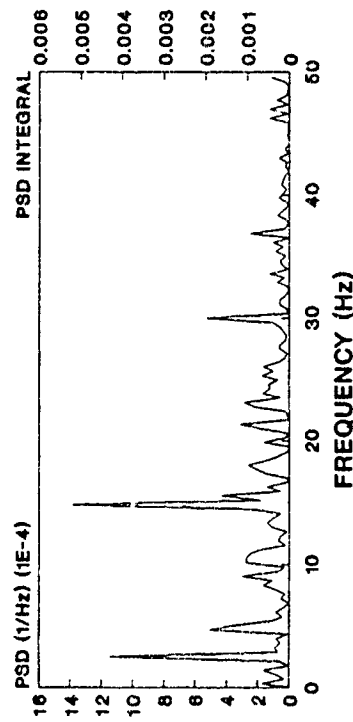
RECTANGLE - HT 8.89 - THETA 30 - AZ 080

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



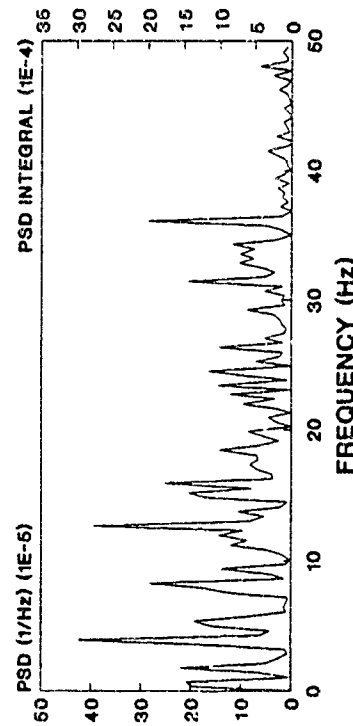
RECTANGLE - HT 8.89 - THETA 30 - AZ 080

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



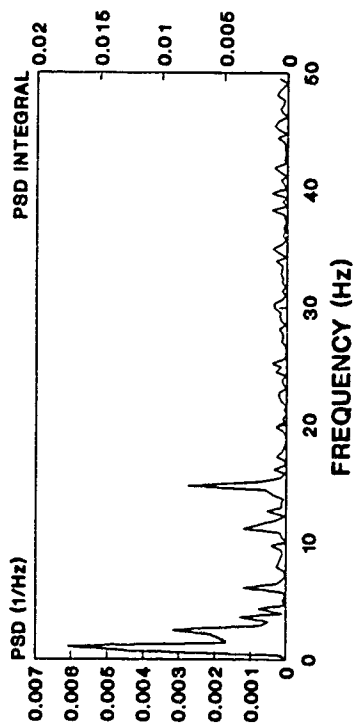
RECTANGLE - HT 8.89 - THETA 30 - AZ 080

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



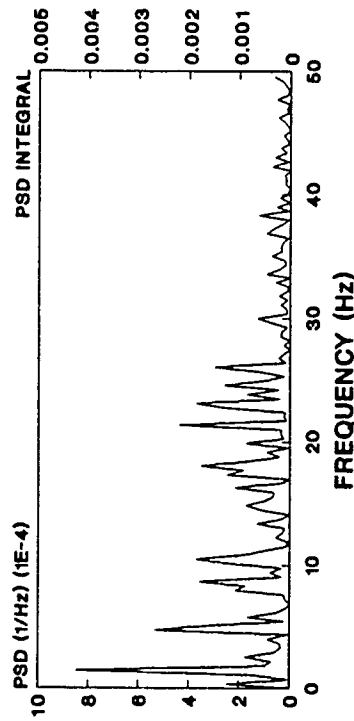
RECTANGLE - HT 8.89 - THETA 30 - AZ 080

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



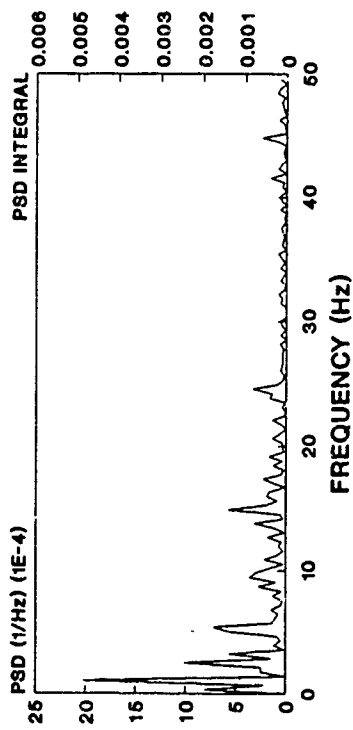
RECTANGLE - HT 8.89 - THETA 30 - AZ 080

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



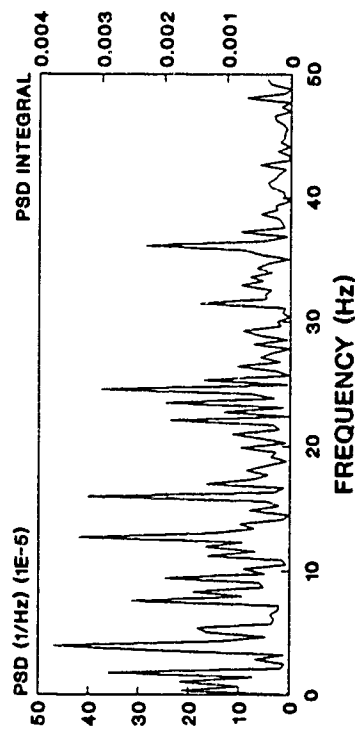
RECTANGLE - HT 8.89 - THETA 30 - AZ 080

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



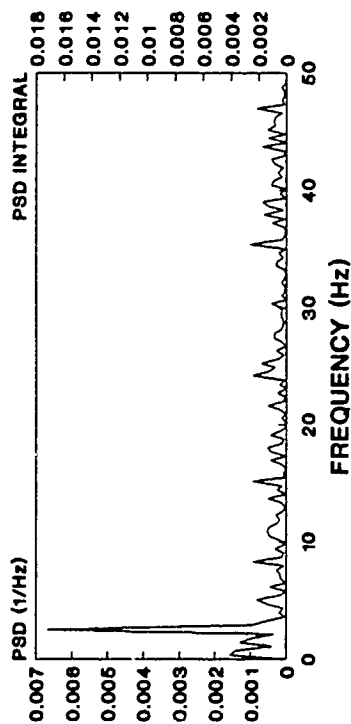
RECTANGLE - HT 8.89 - THETA 30 - AZ 080

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



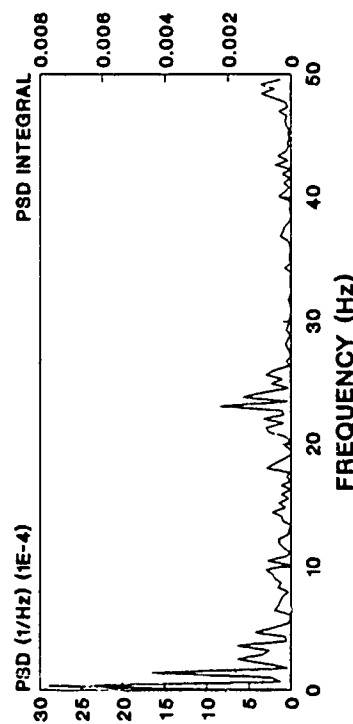
RECTANGLE - HT 8.89 - THETA 30 - AZ 080

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



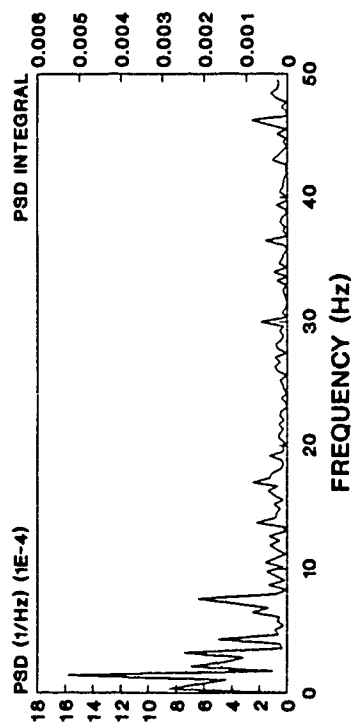
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



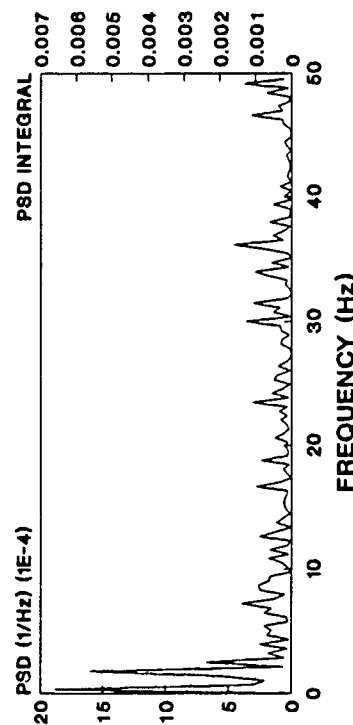
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



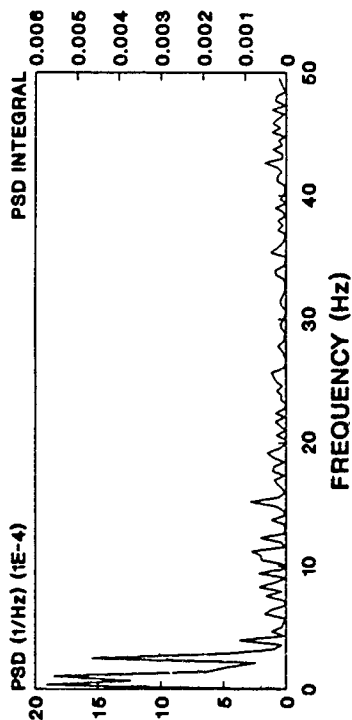
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



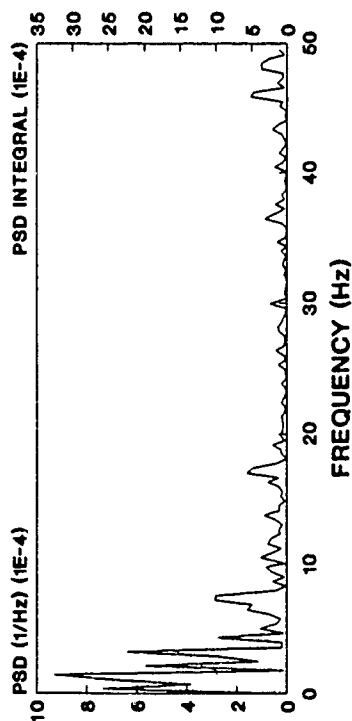
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



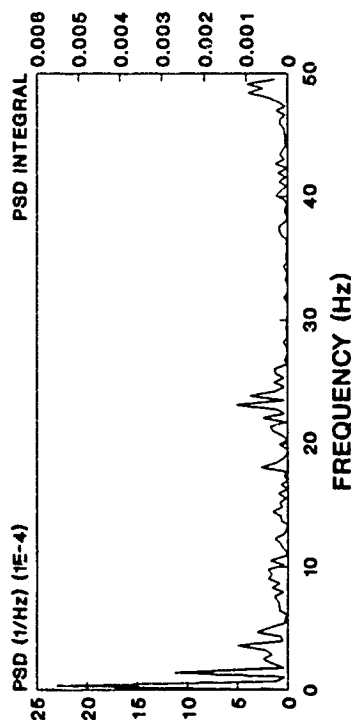
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



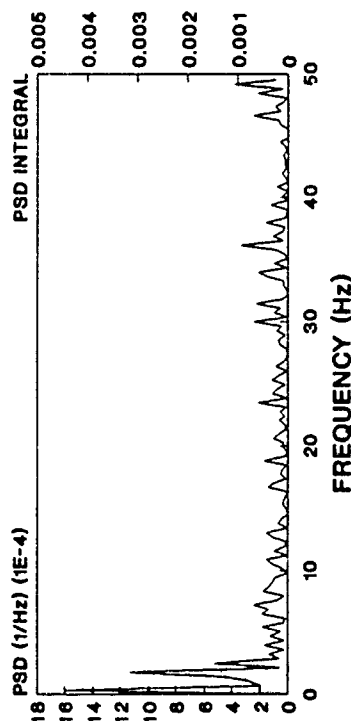
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



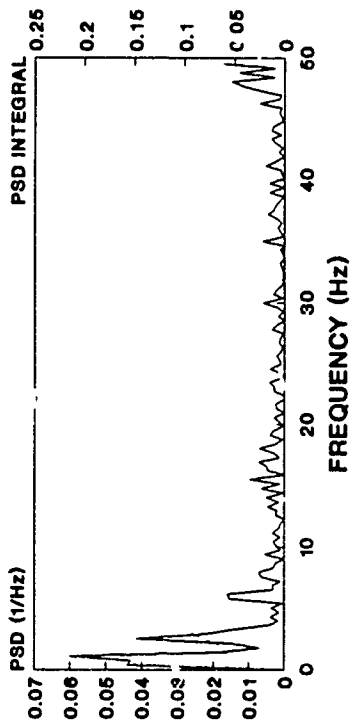
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



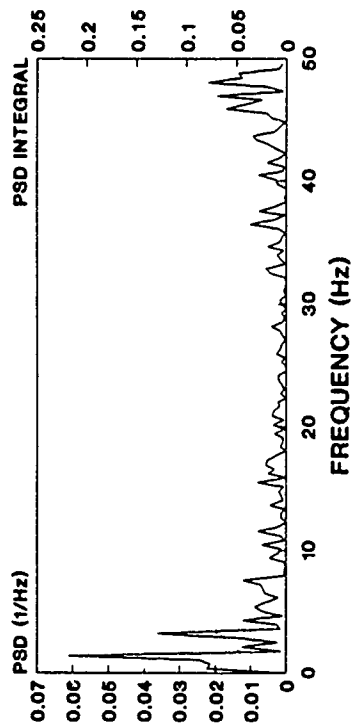
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



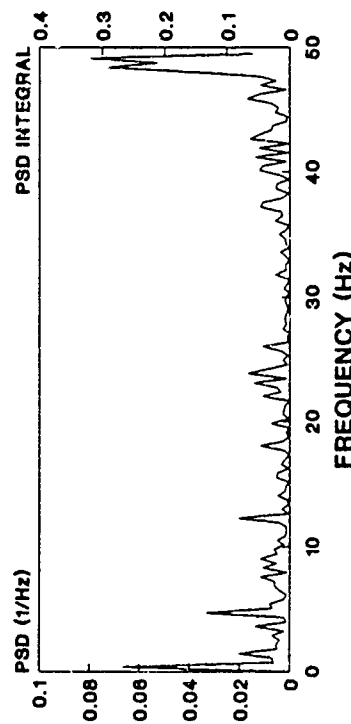
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



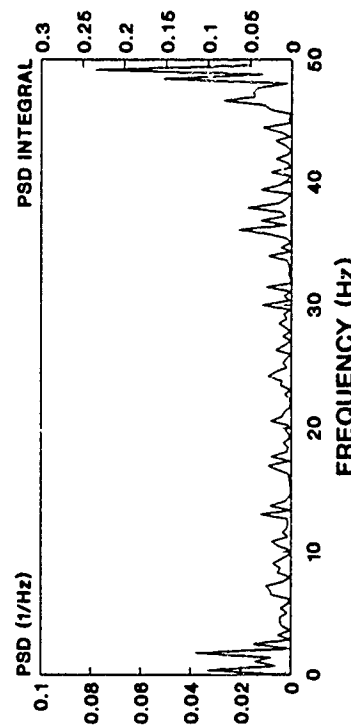
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



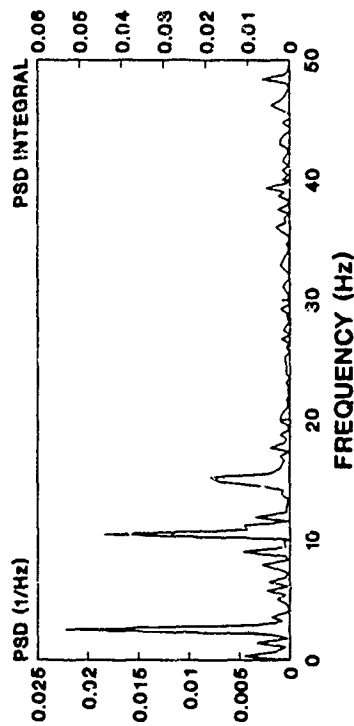
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



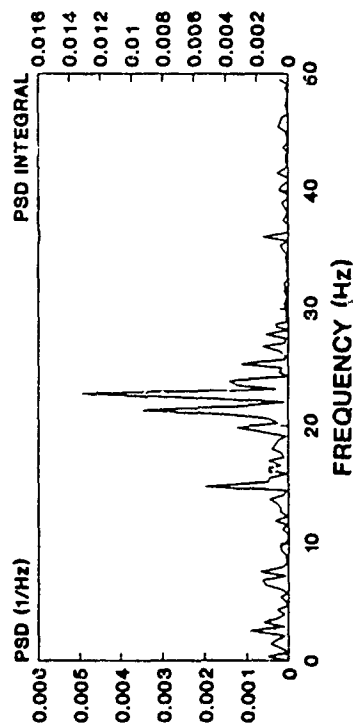
RECTANGLE - HT 8.69 - THETA 30 - AZ 060

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



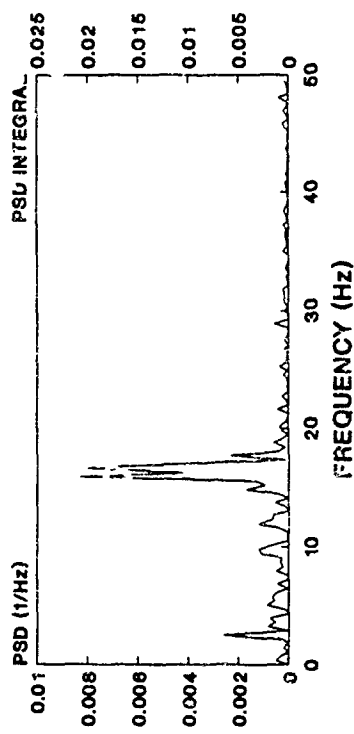
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



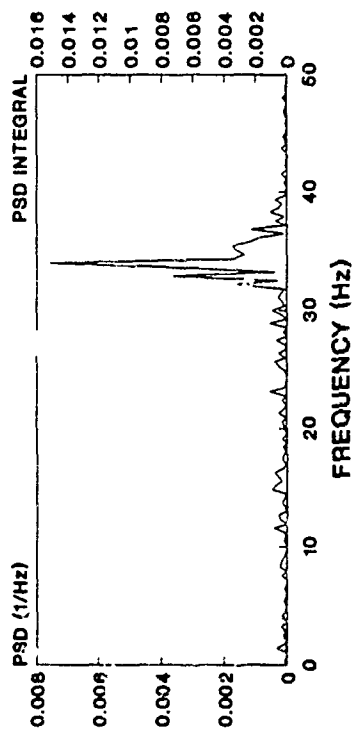
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



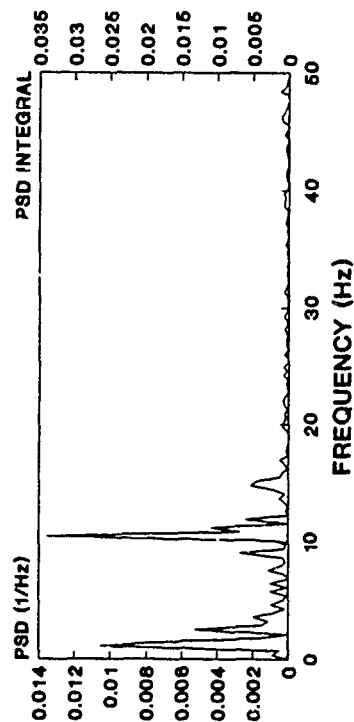
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



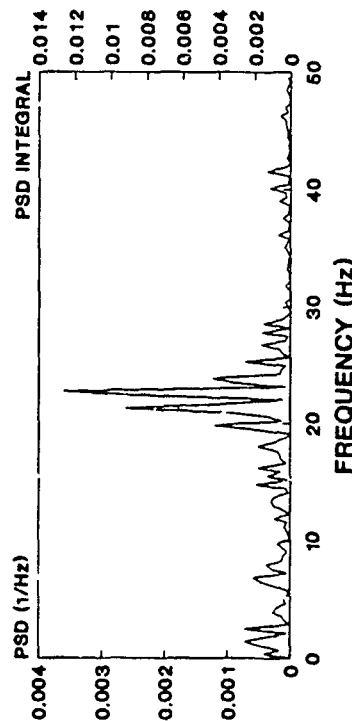
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



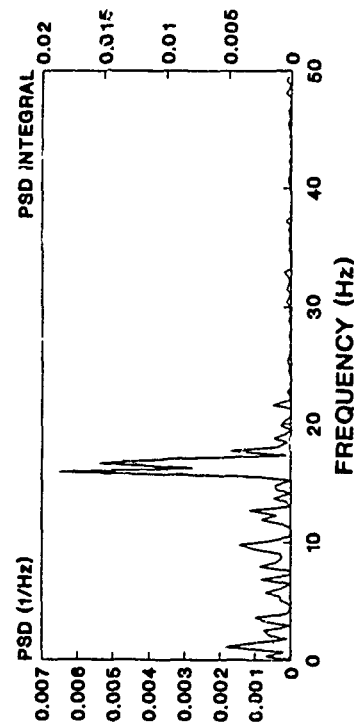
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



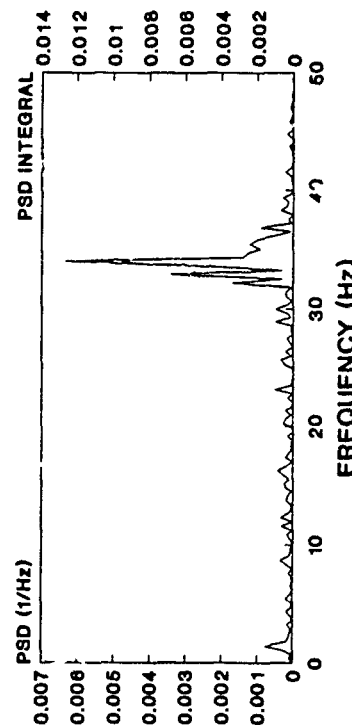
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



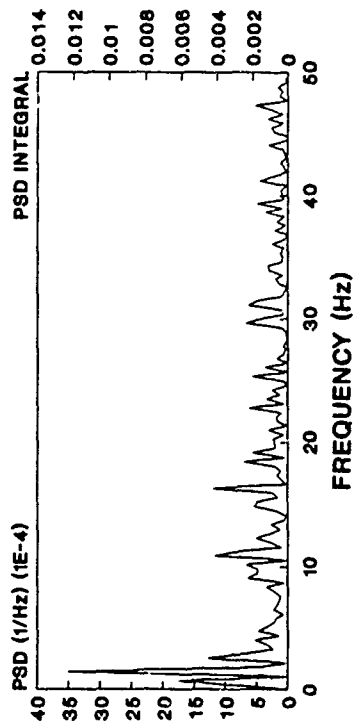
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



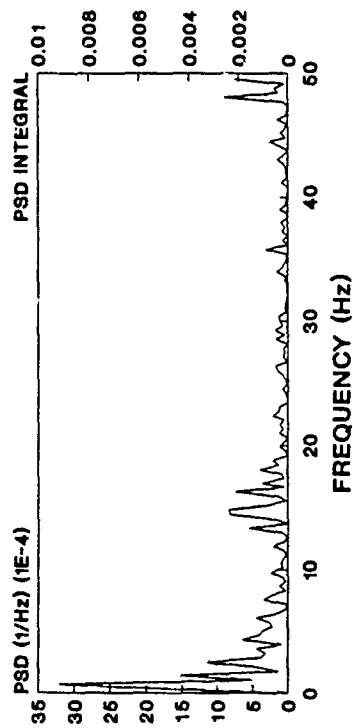
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



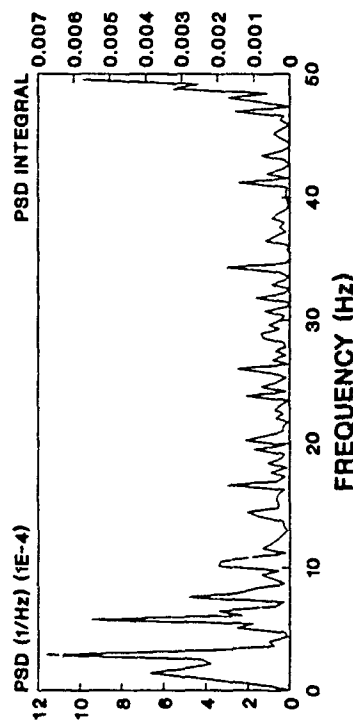
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



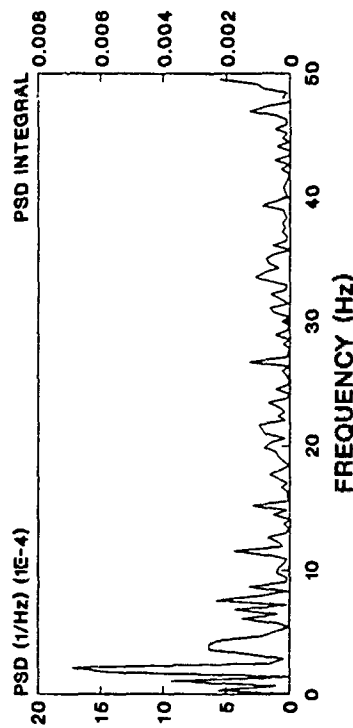
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



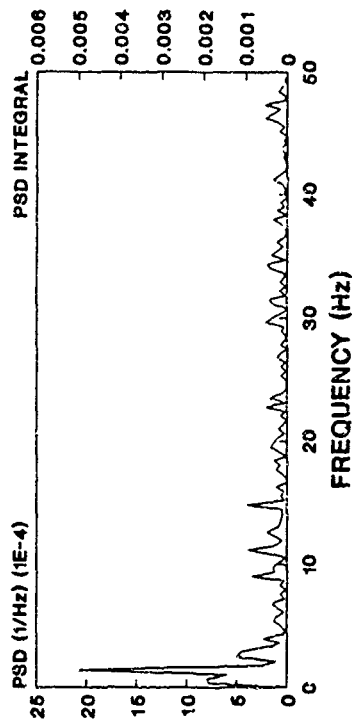
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.69 - THETA 30 - AZ 090

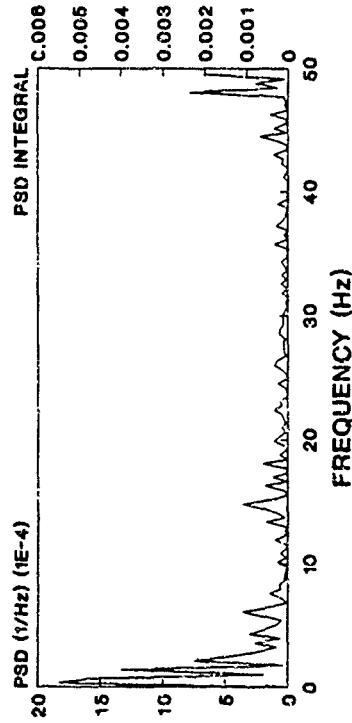
MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.99 - THETA 30 - AZ 090

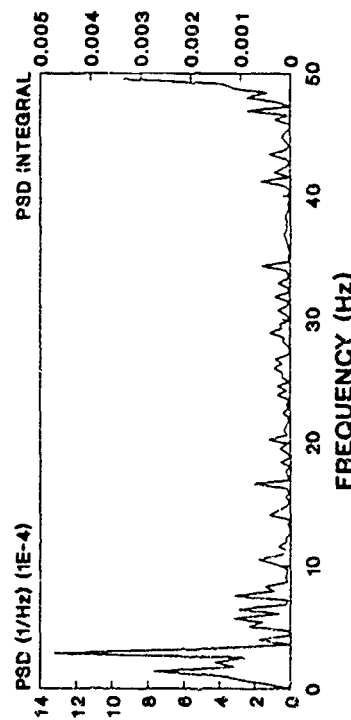
MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.99 - THETA 30 - AZ 090

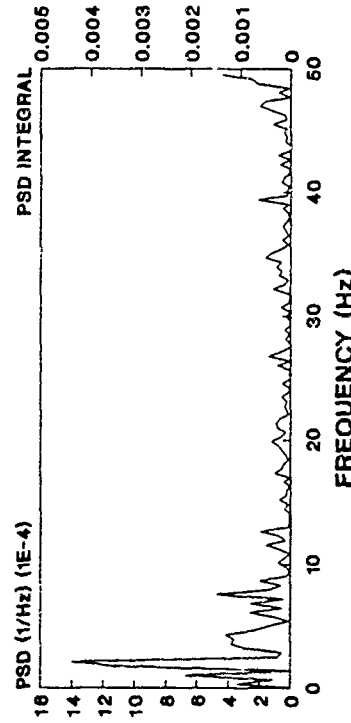
MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.99 - THETA 30 - AZ 090

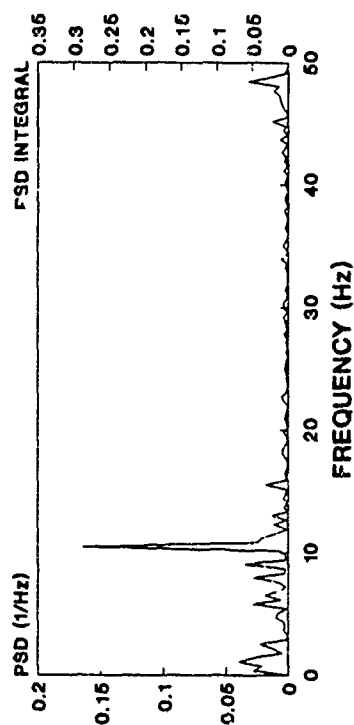
MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

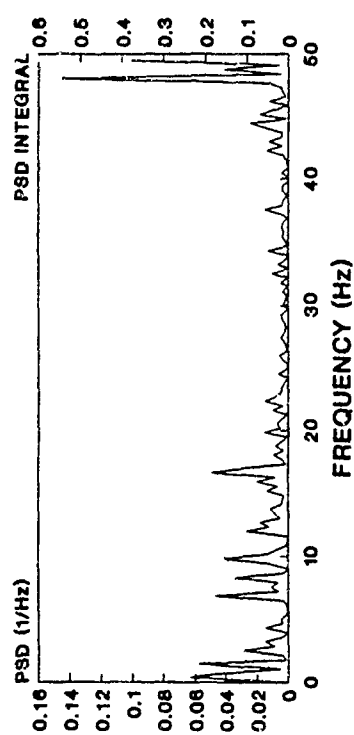
RECTANGLE - HT 8.99 - THETA 30 - AZ 090

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



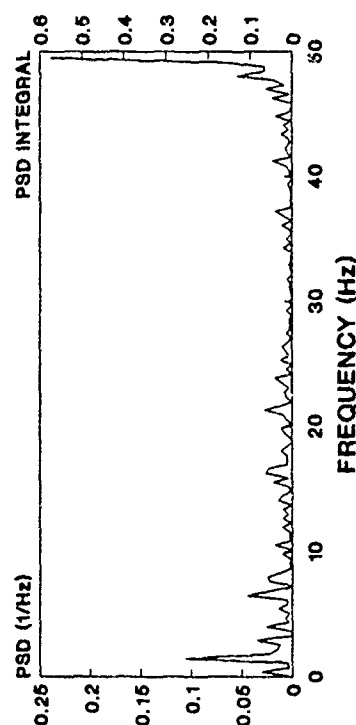
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



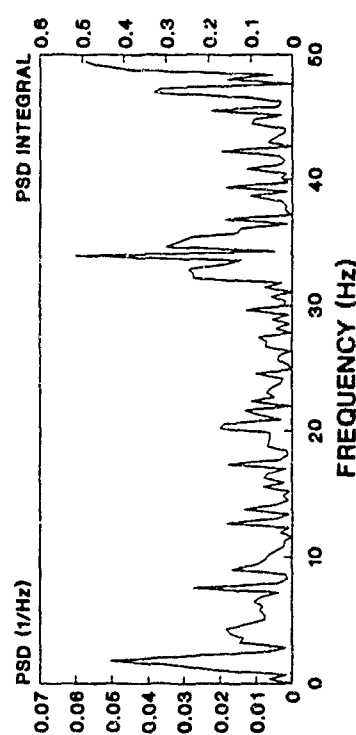
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



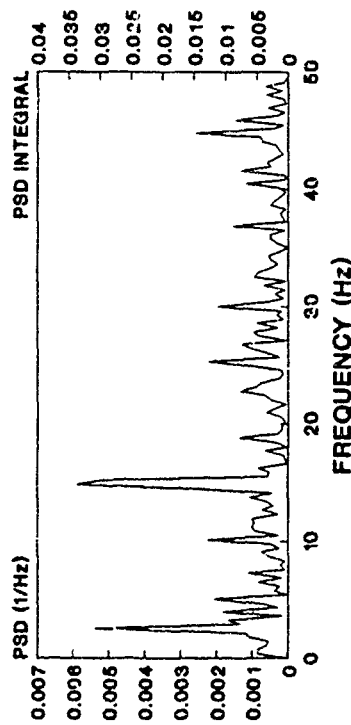
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



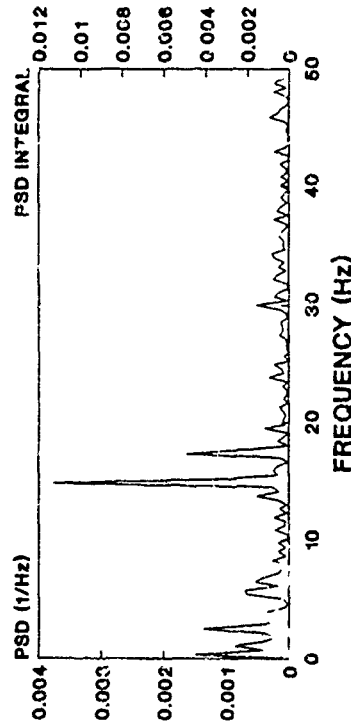
RECTANGLE - HT 8.69 - THETA 30 - AZ 090

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



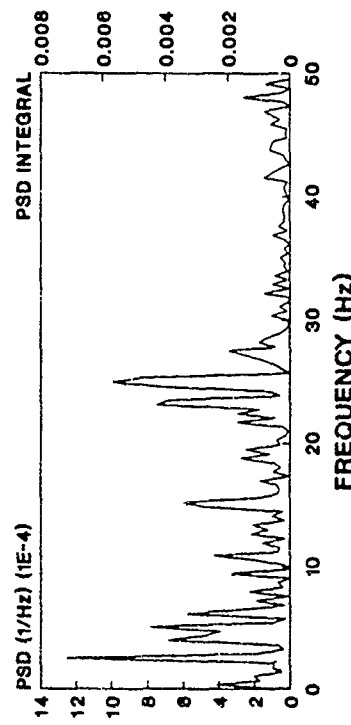
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



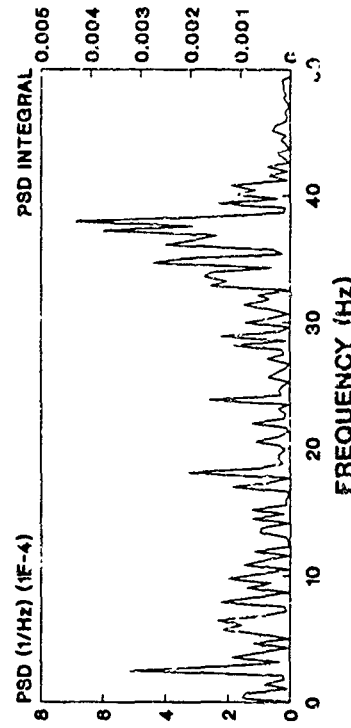
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



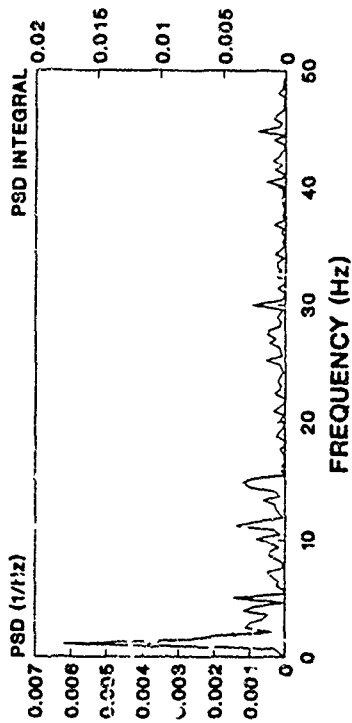
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



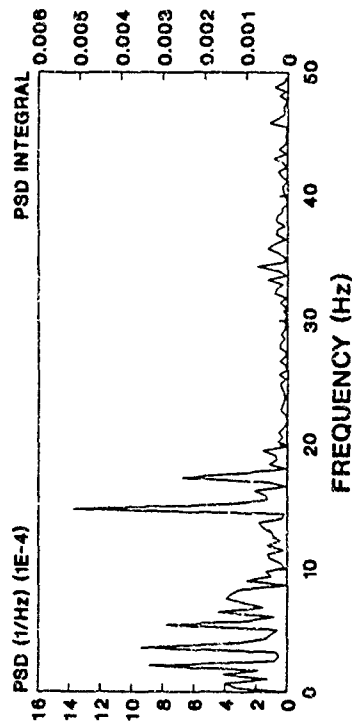
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



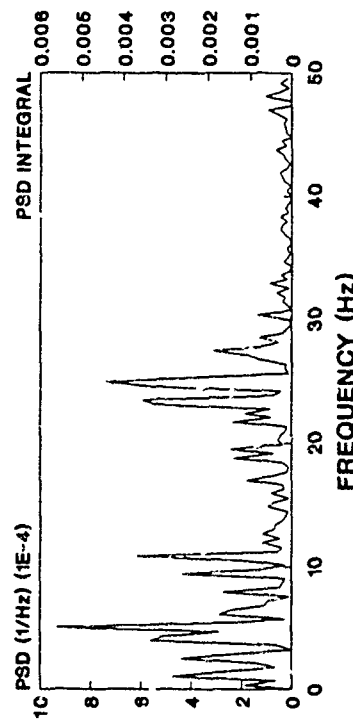
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



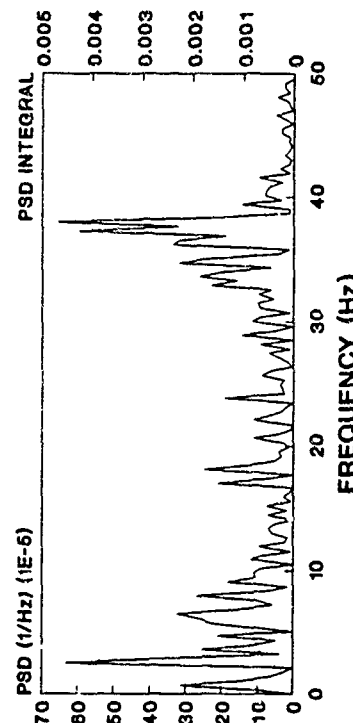
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



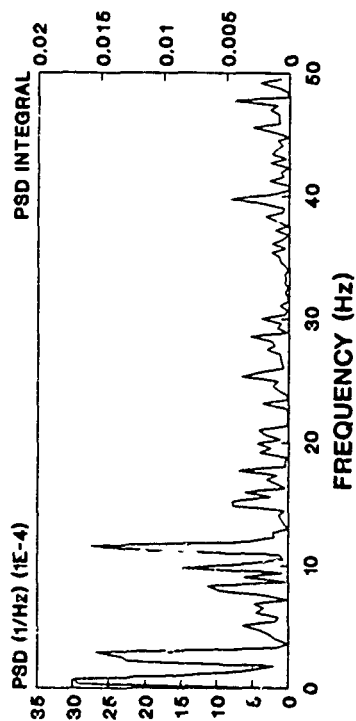
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



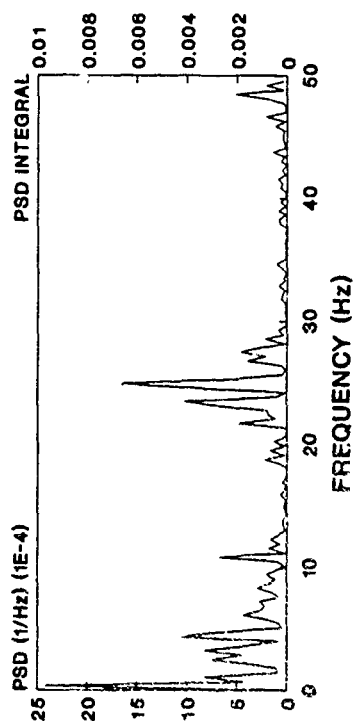
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



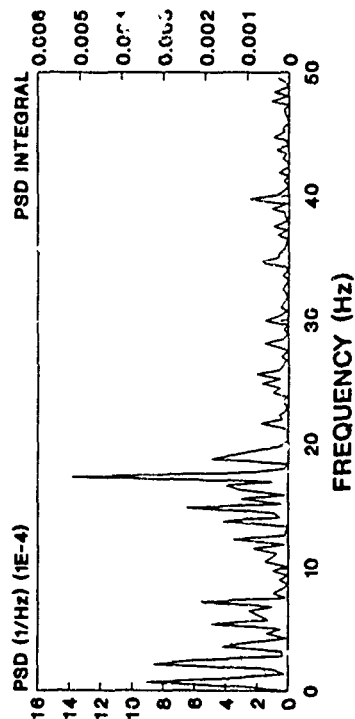
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



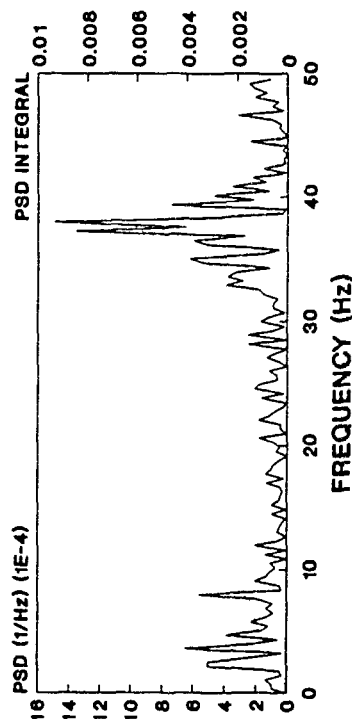
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



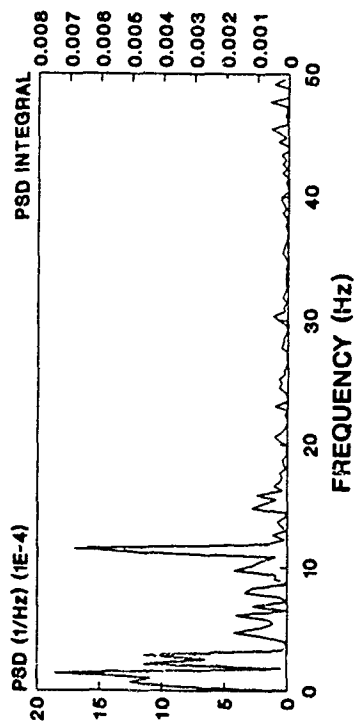
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



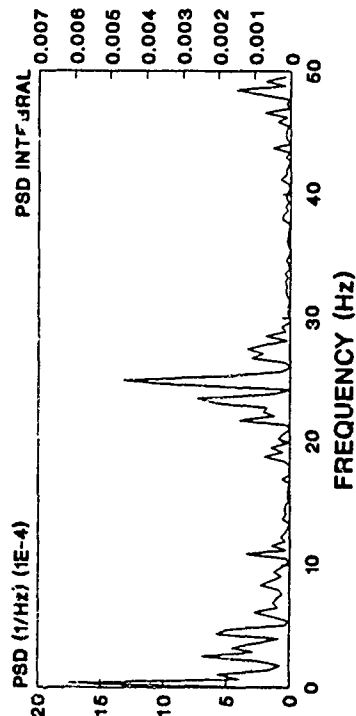
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



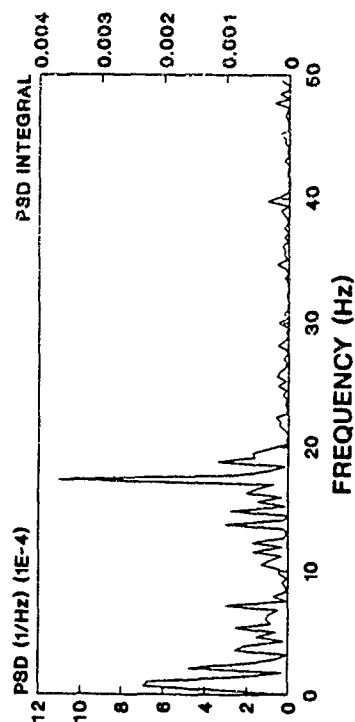
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



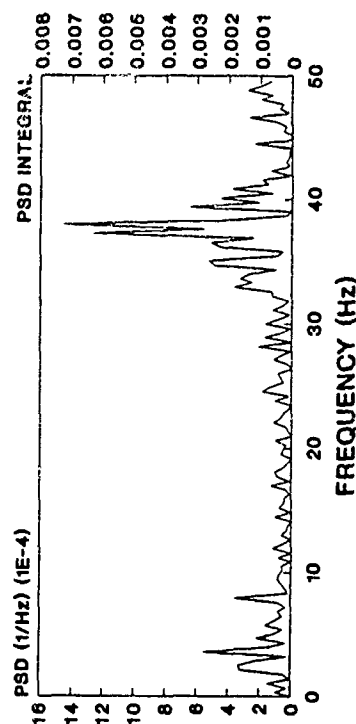
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



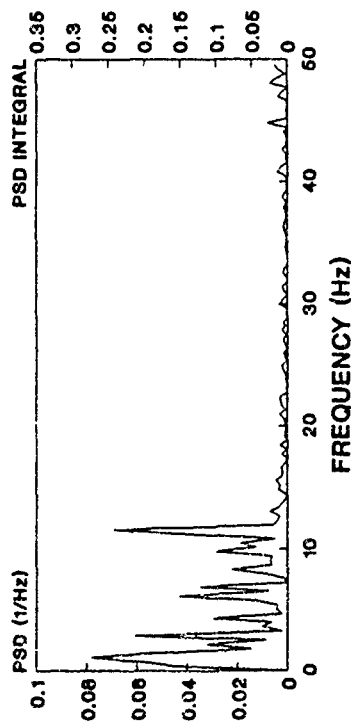
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



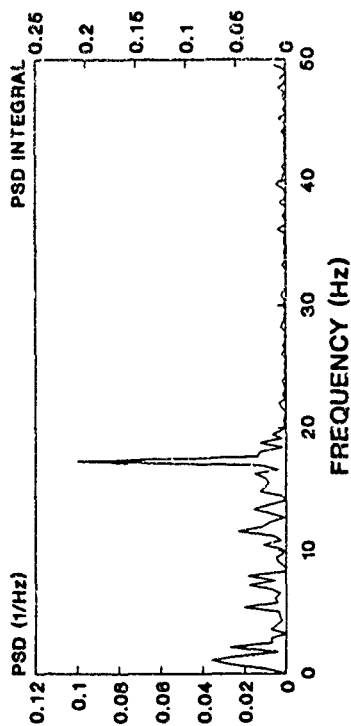
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



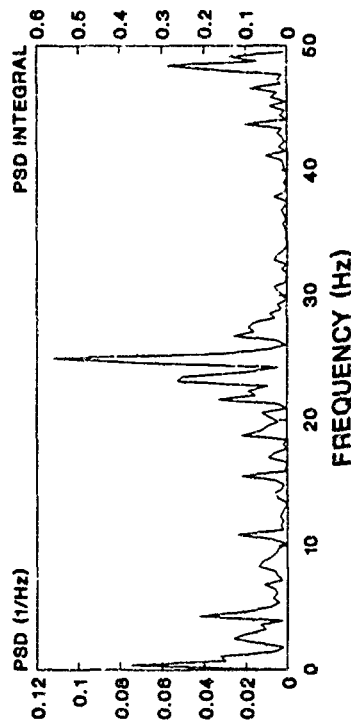
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



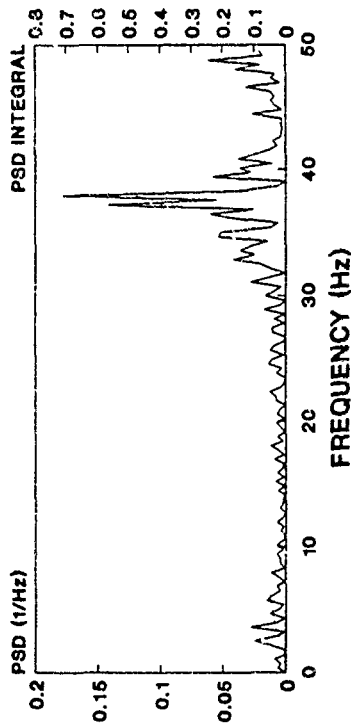
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



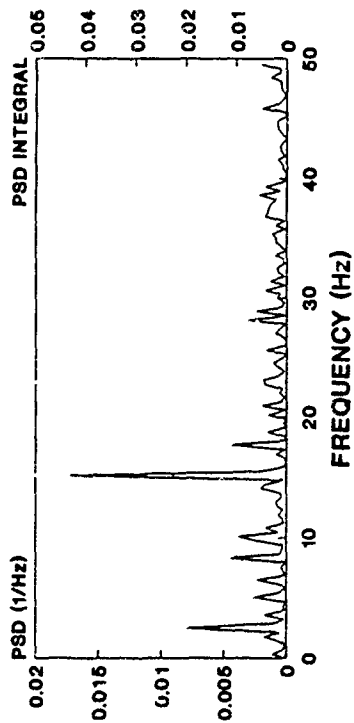
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



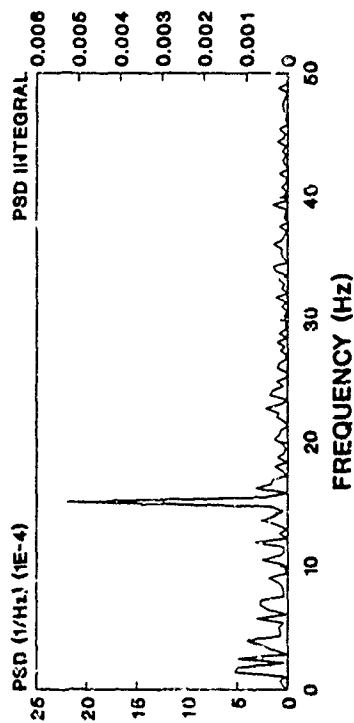
RECTANGLE - HT 8.69 - THETA 30 - AZ 120

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



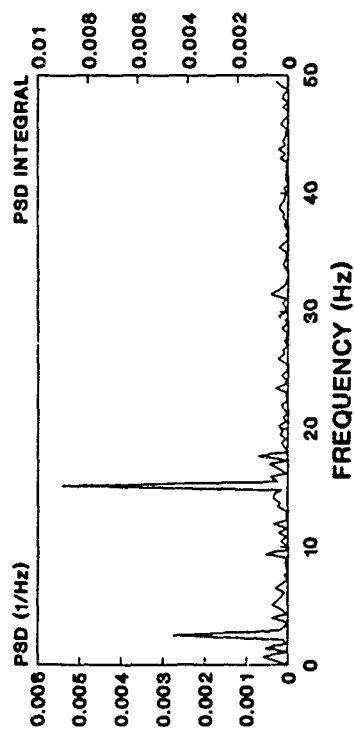
RECTANGLE - HT 8.69 - THETA 30 - AZ 135

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



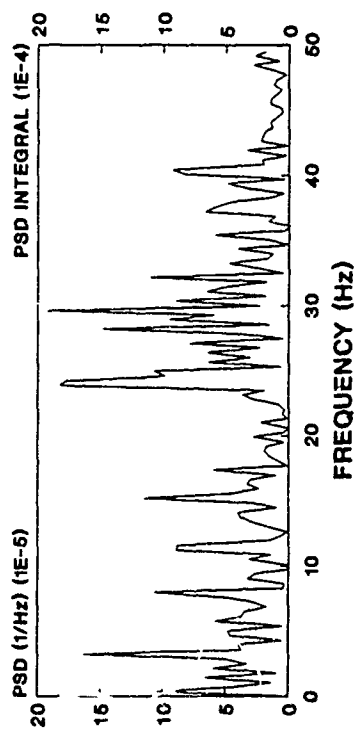
RECTANGLE - HT 8.69 - THETA 30 - AZ 135

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



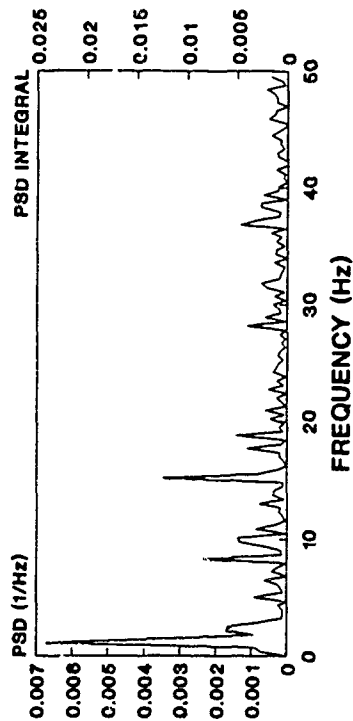
RECTANGLE - HT 8.69 - THETA 30 - AZ 135

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



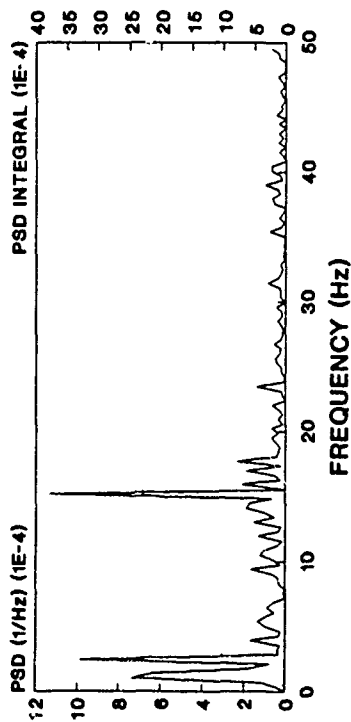
RECTANGLE - HT 8.69 - THETA 30 - AZ 135

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



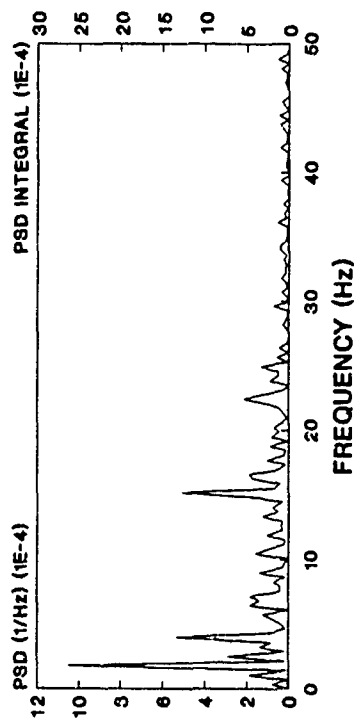
RECTANGLE - HT 8.69 - THETA 30 - AZ 136

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



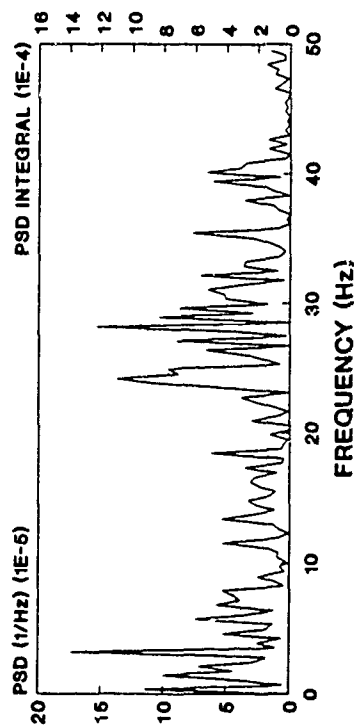
RECTANGLE - HT 8.69 - THETA 30 - AZ 136

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



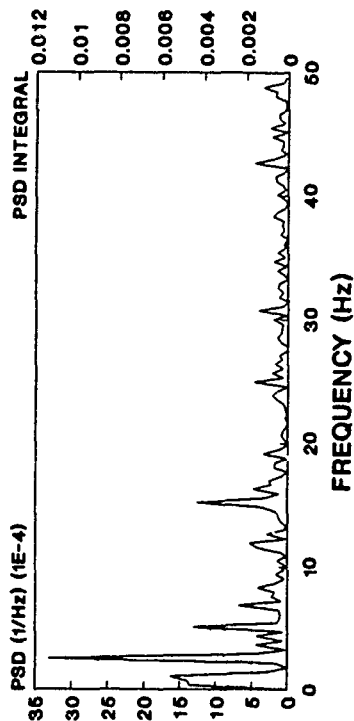
RECTANGLE - HT 8.69 - THETA 30 - AZ 136

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



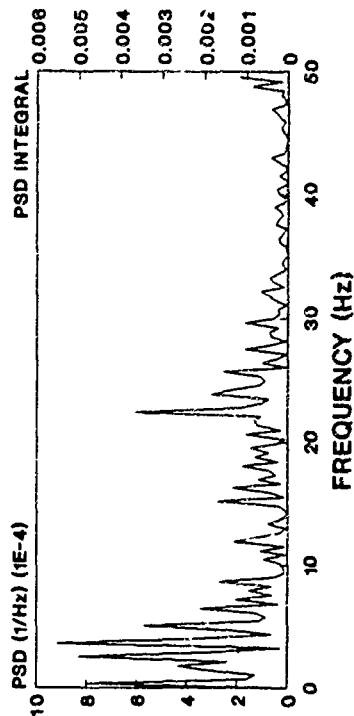
RECTANGLE - HT 8.69 - THETA 30 - AZ 136

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



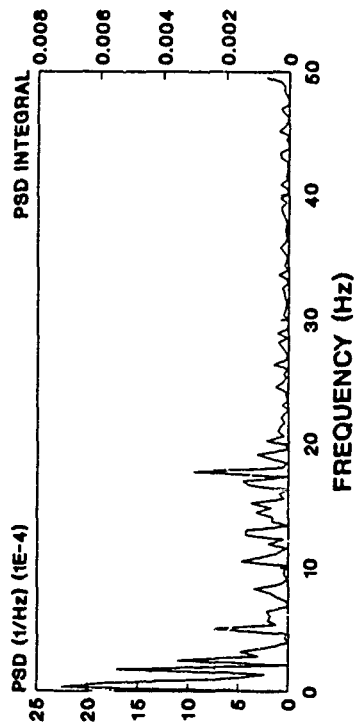
RECTANGLE - HT 8.89 - THETA 30 - AZ 135

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



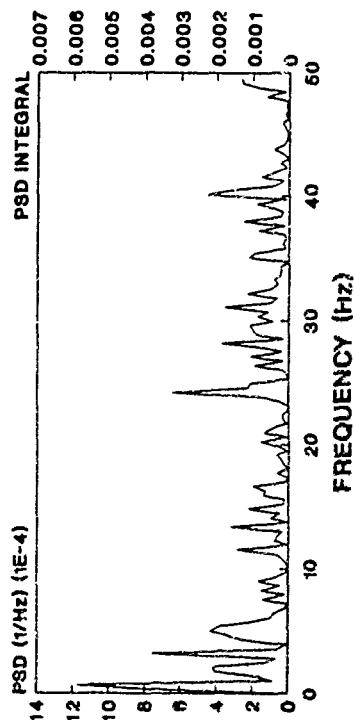
RECTANGLE - HT 8.89 - THETA 30 - AZ 135

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



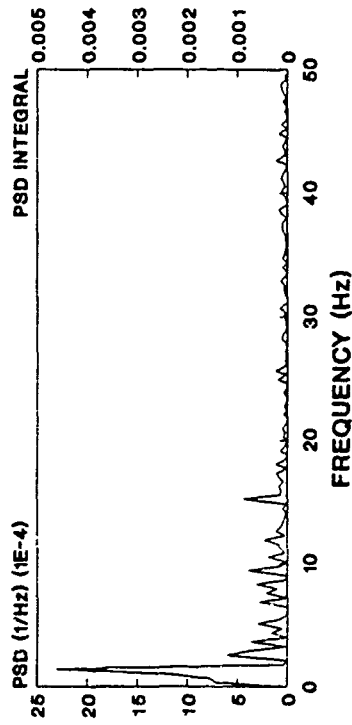
RECTANGLE - HT 8.89 - THETA 30 - AZ 135

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.89 - THETA 30 - AZ 135

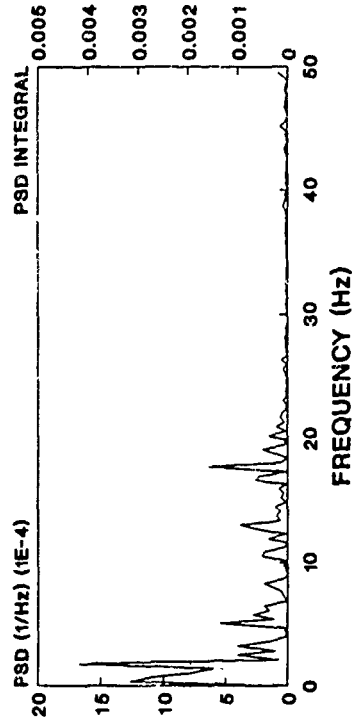
MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 135

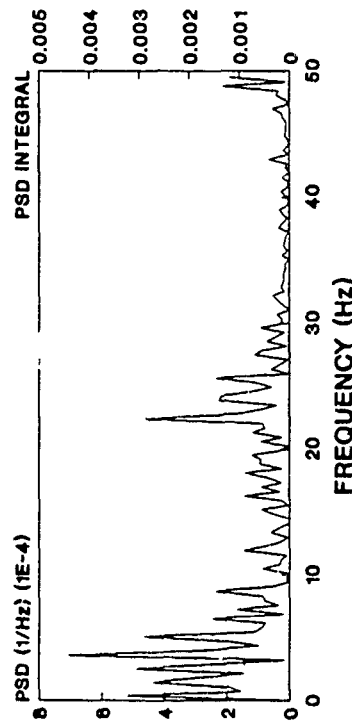
MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 135

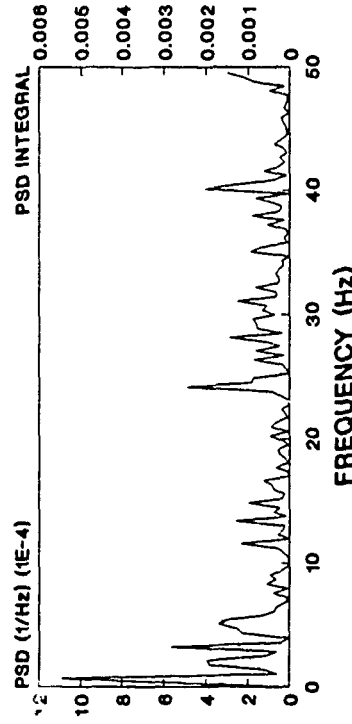
MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 135

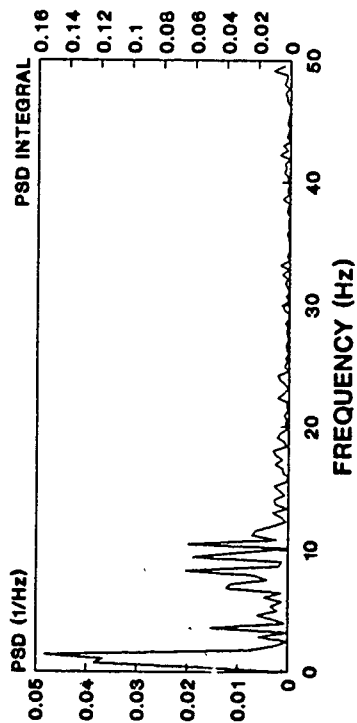
MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

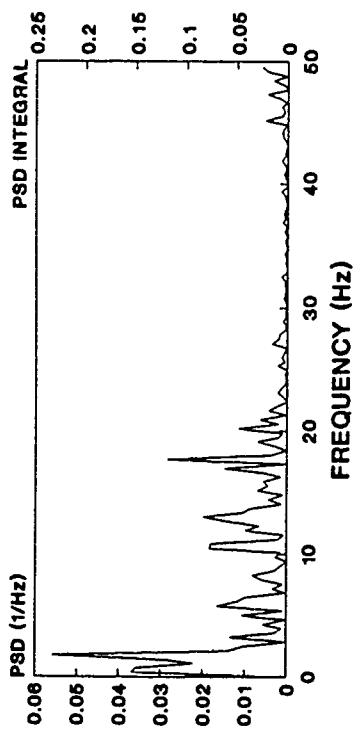
RECTANGLE - HT 8.69 - THETA 30 - AZ 135

MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



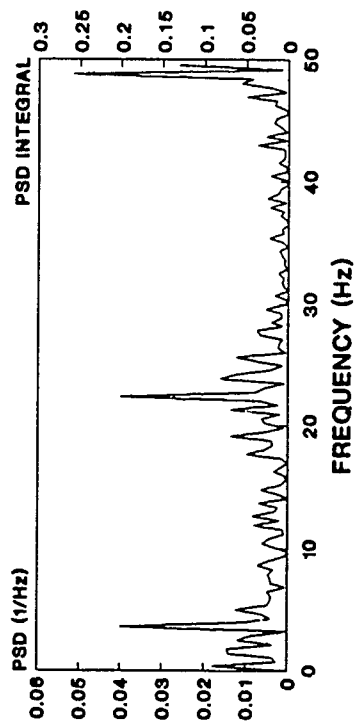
RECTANGLE - HT 8.69 - THETA 30 - AZ 136

MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



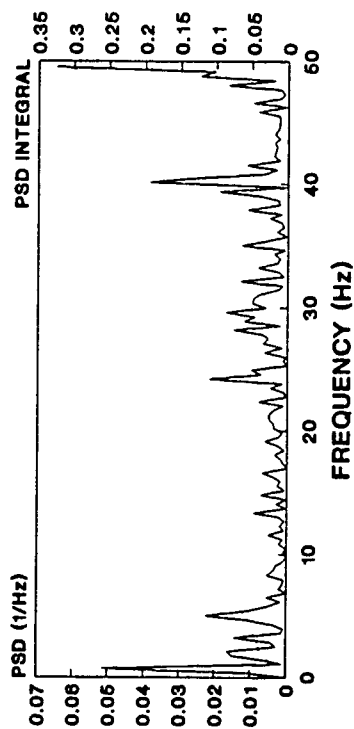
RECTANGLE - HT 8.69 - THETA 30 - AZ 136

MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



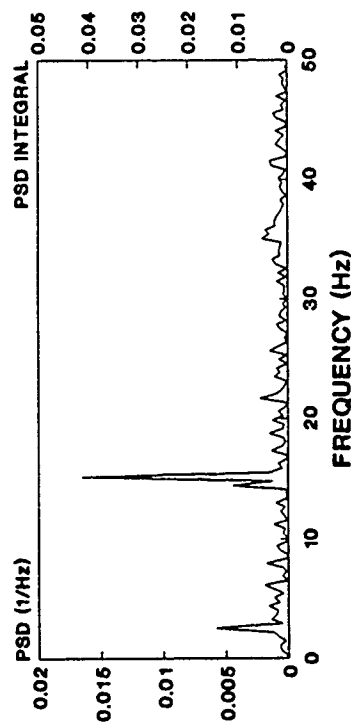
RECTANGLE - HT 8.69 - THETA 30 - AZ 136

MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



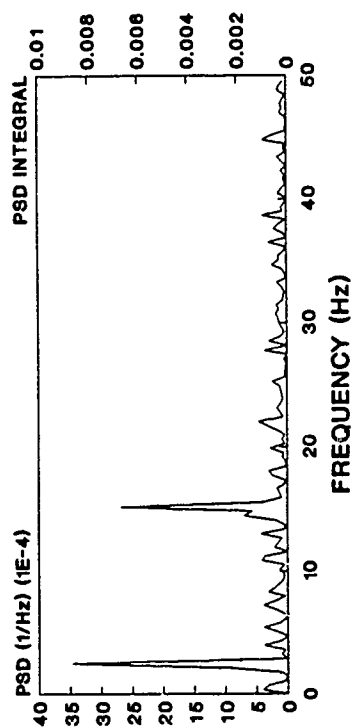
RECTANGLE - HT 8.69 - THETA 30 - AZ 136

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



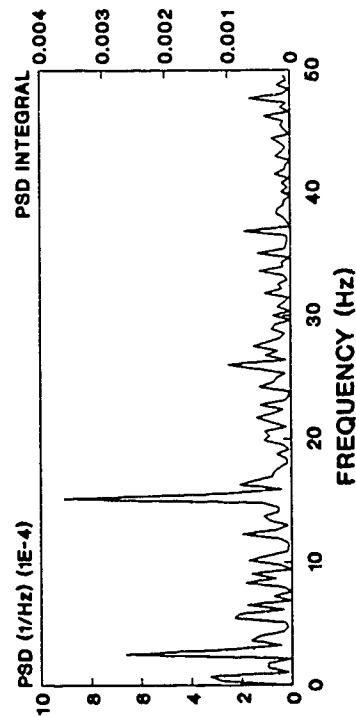
RECTANGLE - HT 8.69 - THETA 30 - AZ 160

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



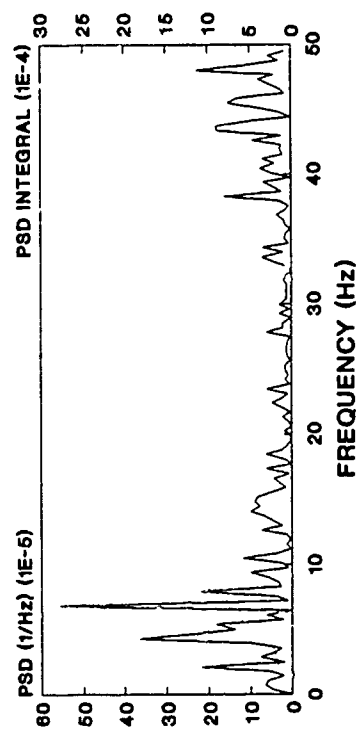
RECTANGLE - HT 8.69 - THETA 30 - AZ 160

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



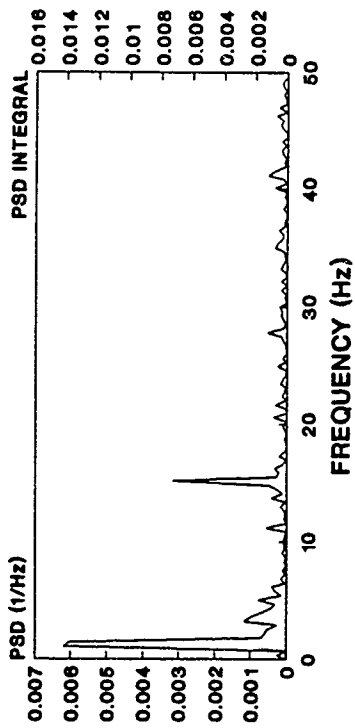
RECTANGLE - HT 8.69 - THETA 30 - AZ 160

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.69 - THETA 30 - AZ 160

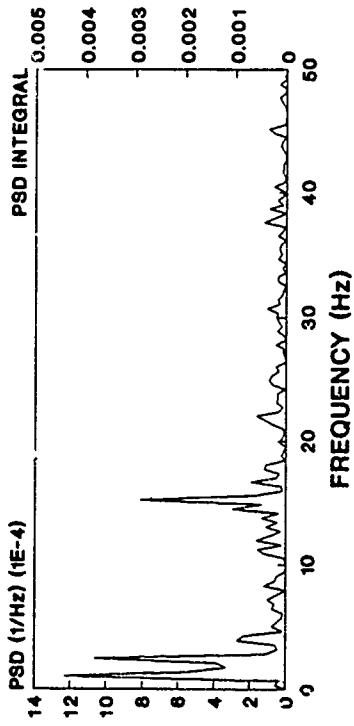
MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 160

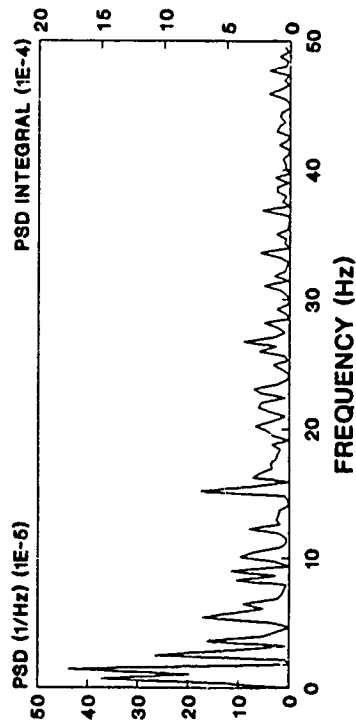
MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 160

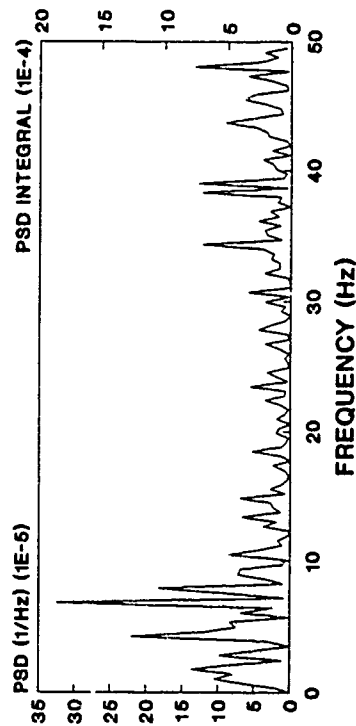
MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 160

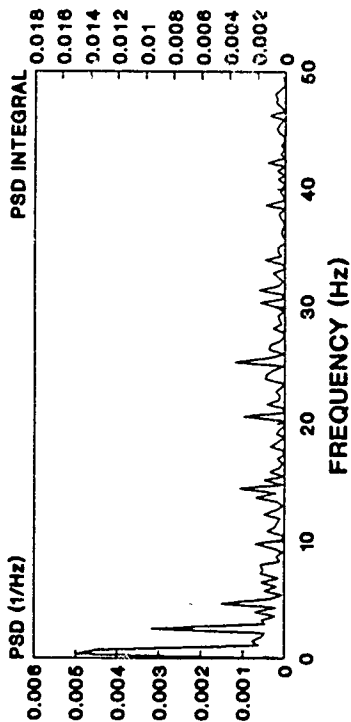
MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

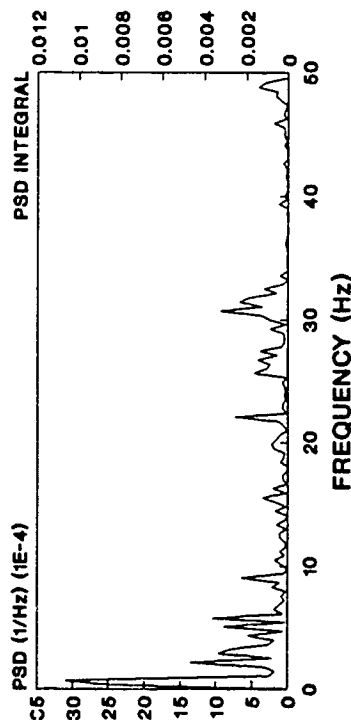
RECTANGLE - HT 8.69 - THETA 30 - AZ 160

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



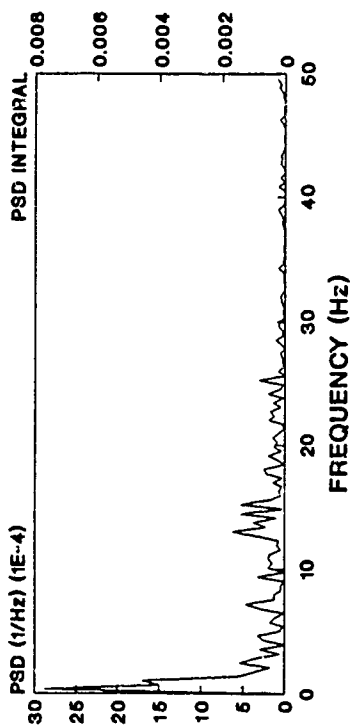
RECTANGLE - HT 8.69 - THETA 30 - AZ 150

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



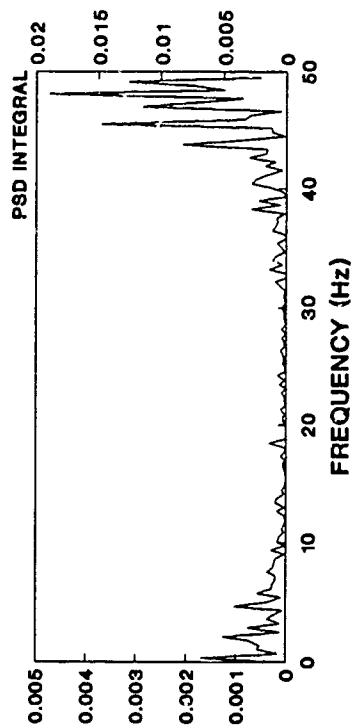
RECTANGLE - HT 8.69 - THETA 30 - AZ 150

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



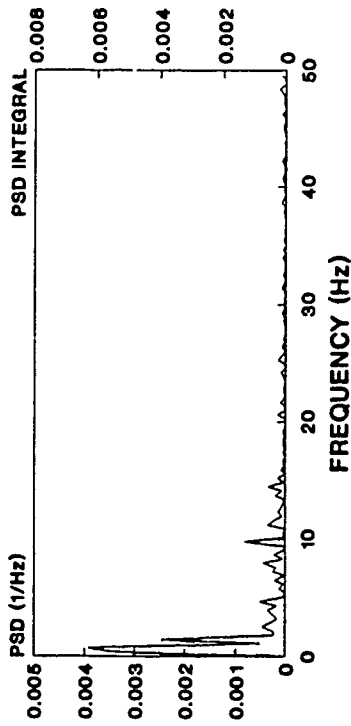
RECTANGLE - HT 8.69 - THETA 30 - AZ 150

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.69 - THETA 30 - AZ 150

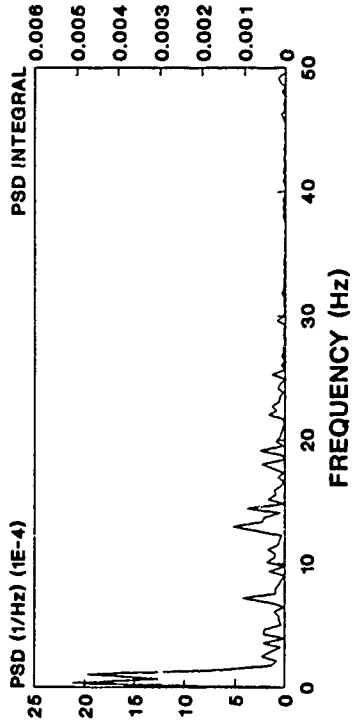
MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - HT 8.89 - THETA 30 - AZ 150

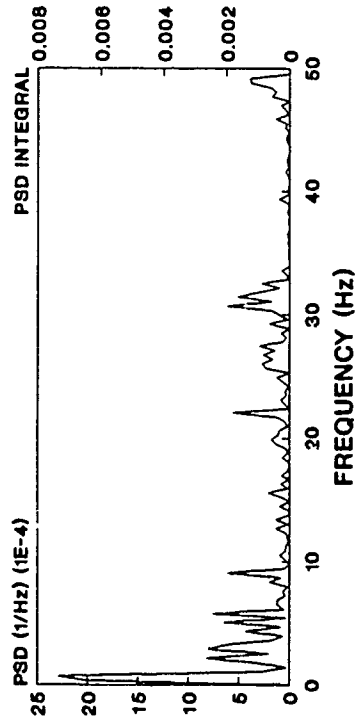
MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - HT 8.89 - THETA 30 - AZ 150

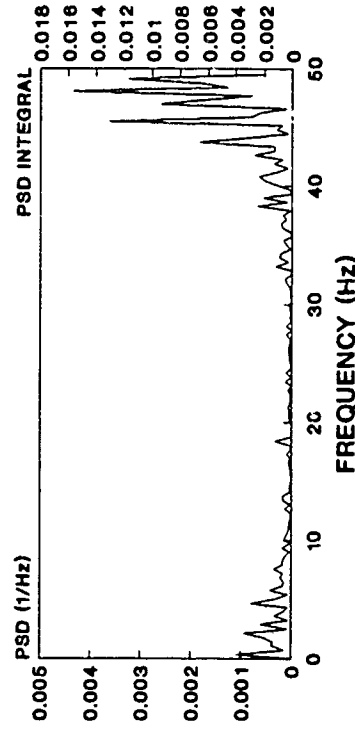
MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - HT 8.89 - THETA 30 - AZ 150

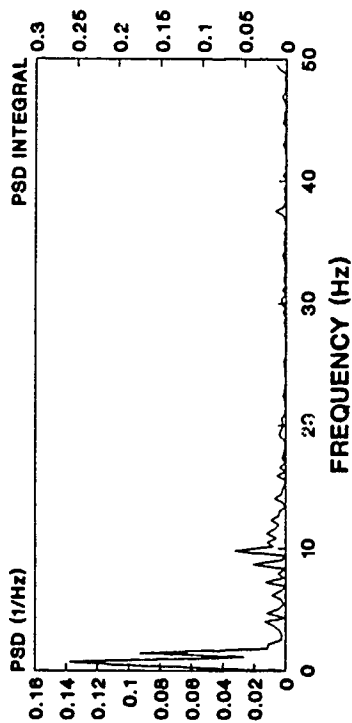
MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

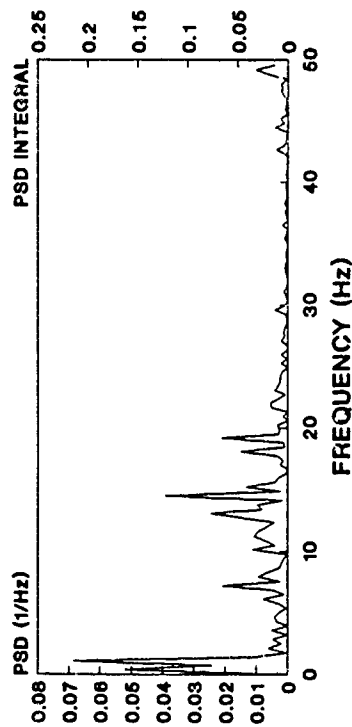
RECTANGLE - HT 8.89 - THETA 30 - AZ 150

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



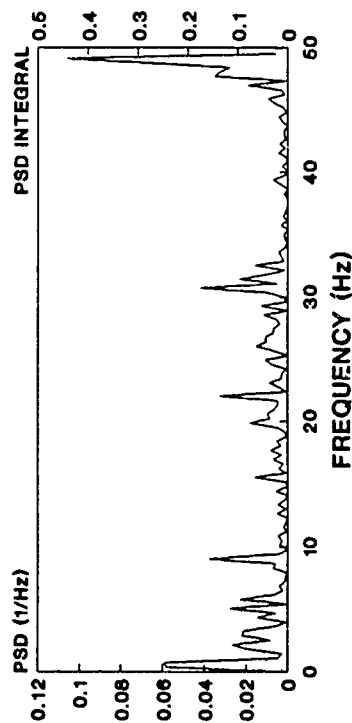
RECTANGLE - HT 8.69 - THETA 30 - AZ 160

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



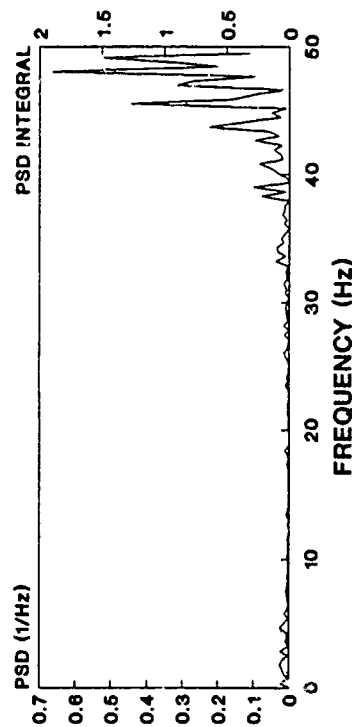
RECTANGLE - HT 8.69 - THETA 30 - AZ 160

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



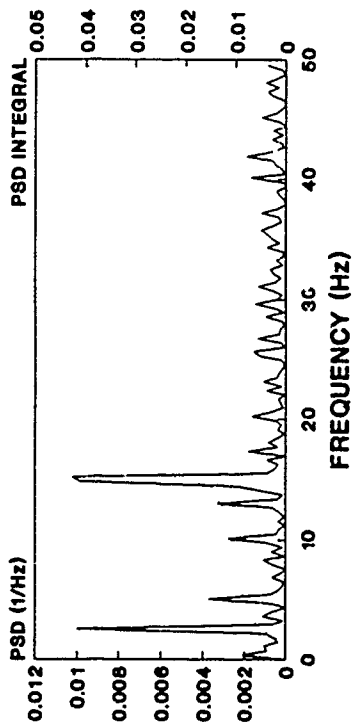
RECTANGLE - HT 8.69 - THETA 30 - AZ 160

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



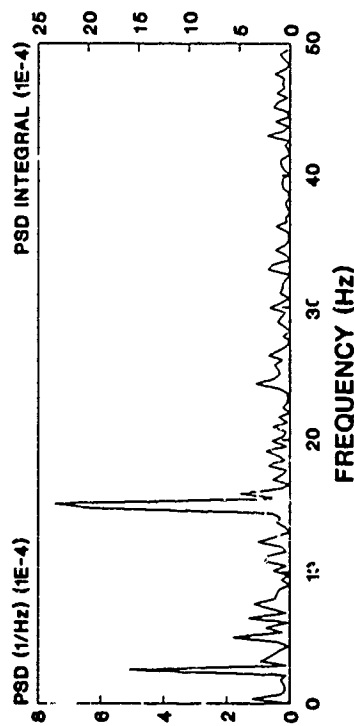
RECTANGLE - HT 8.69 - THETA 30 - AZ 160

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



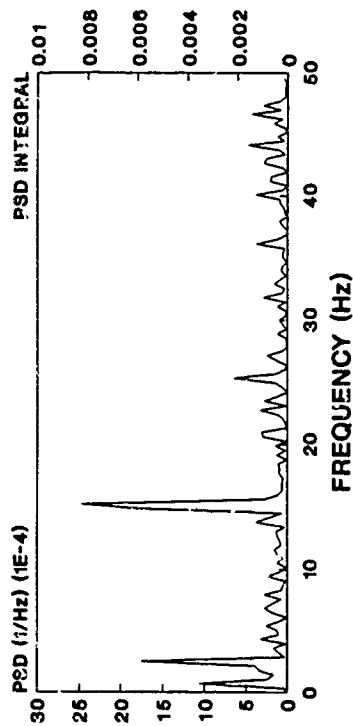
RECTANGLE - HT 8.89 - THETA 30 - AZ 180

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



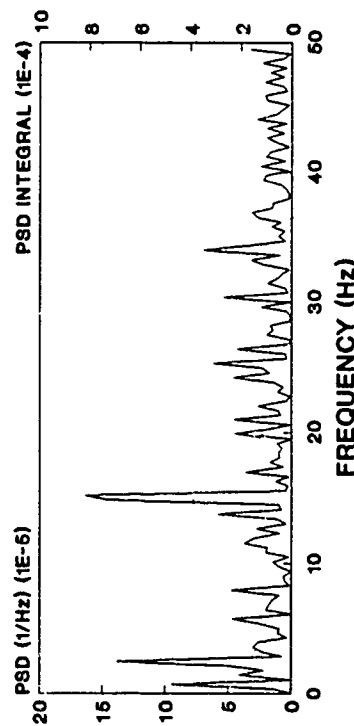
RECTANGLE - HT 8.89 - THETA 30 - AZ 180

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



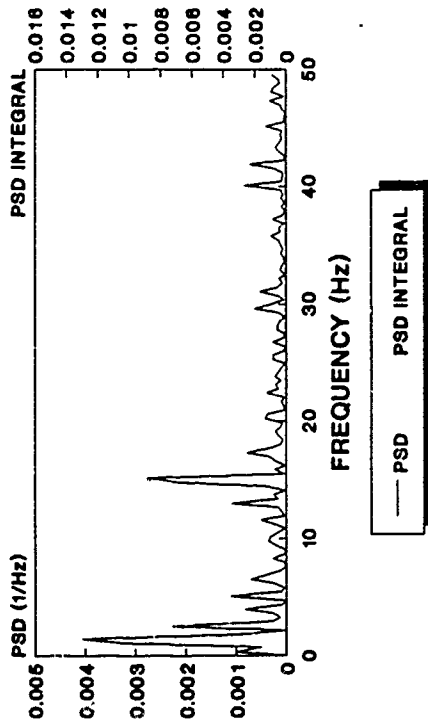
RECTANGLE - HT 8.89 - THETA 30 - AZ 180

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



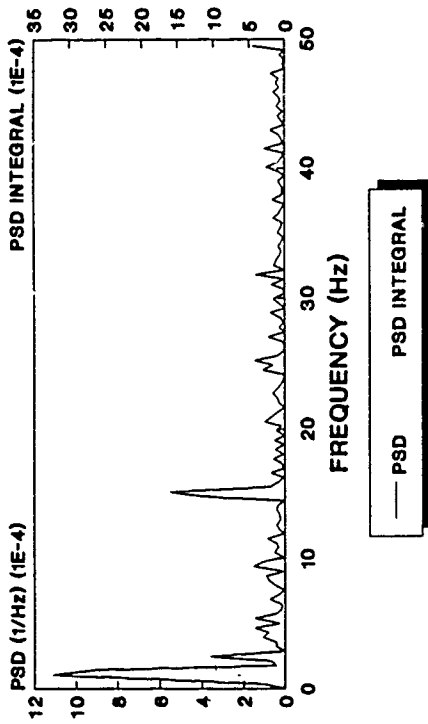
RECTANGLE - HT 8.89 - THETA 30 - AZ 180

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



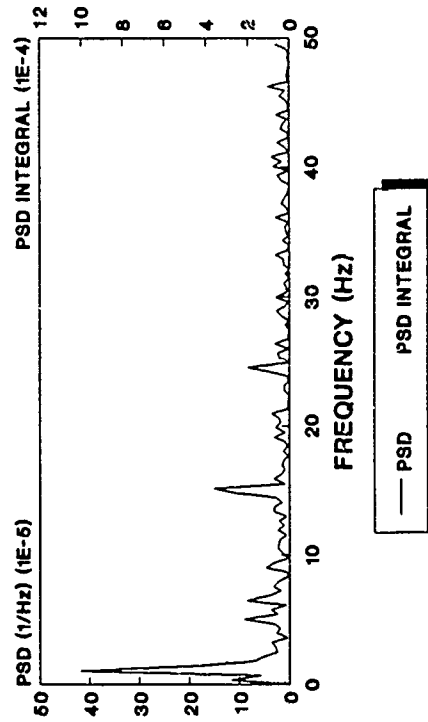
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



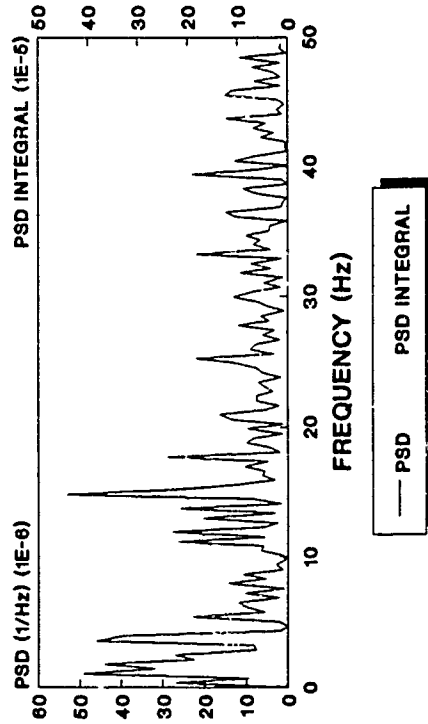
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



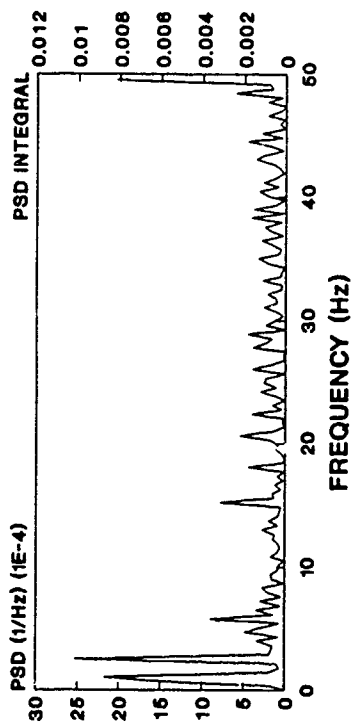
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



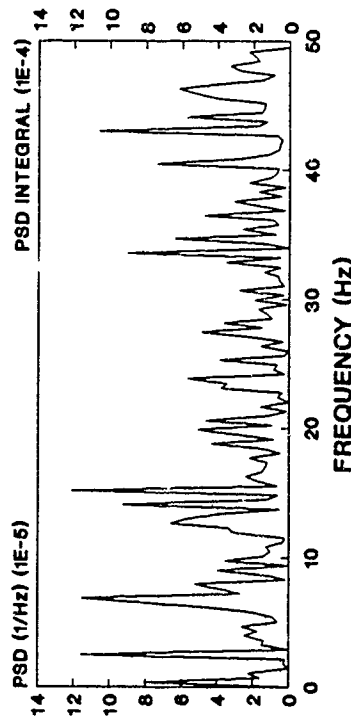
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

FORCE COEFF - LATERAL **60 FT/SEC NOMINAL**



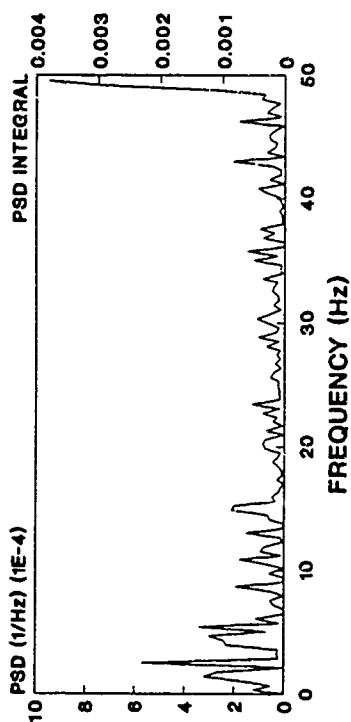
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

FORCE COEFF - LATERAL **120 FT/SEC NOMINAL**



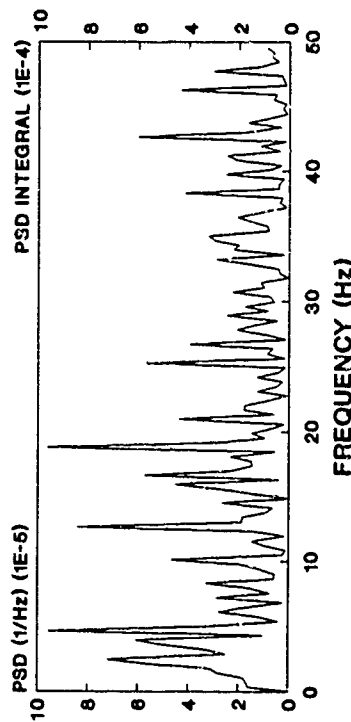
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

FORCE COEFF - LATERAL **90 FT/SEC NOMINAL**



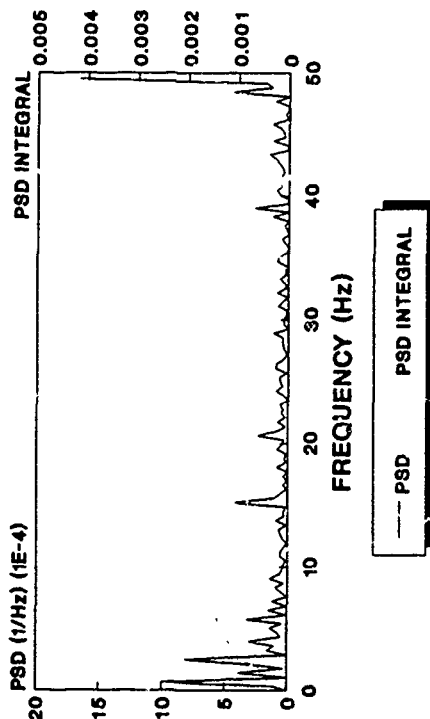
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

FORCE COEFF - LATERAL **180 FT/SEC NOMINAL**



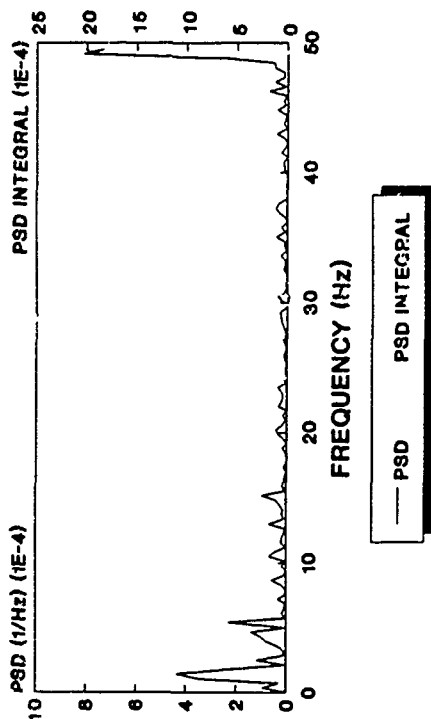
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



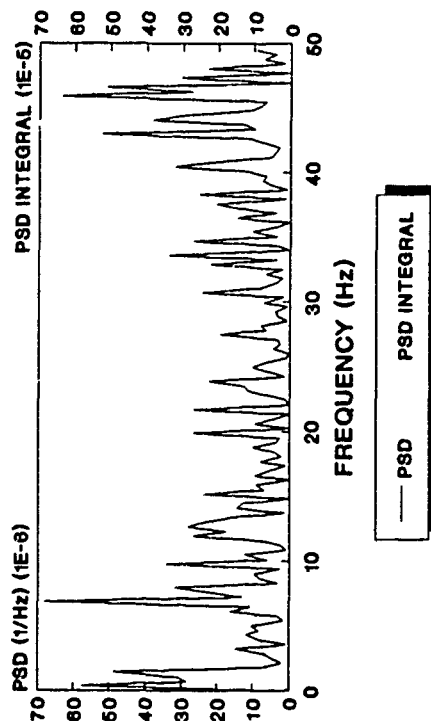
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



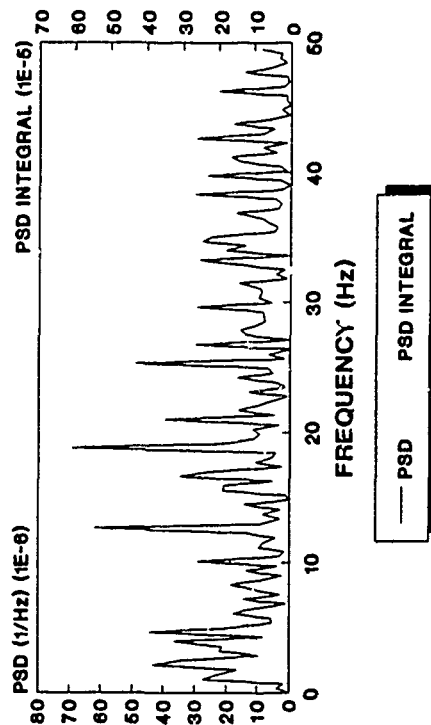
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



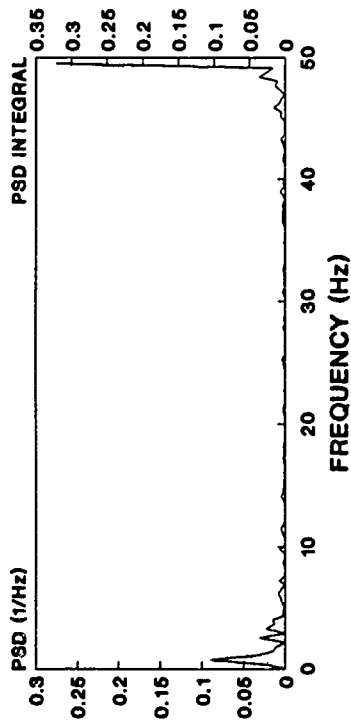
RECTANGLE - HT 8.69 - THETA 30 - AZ 180

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.69 - THETA 30 - AZ 180

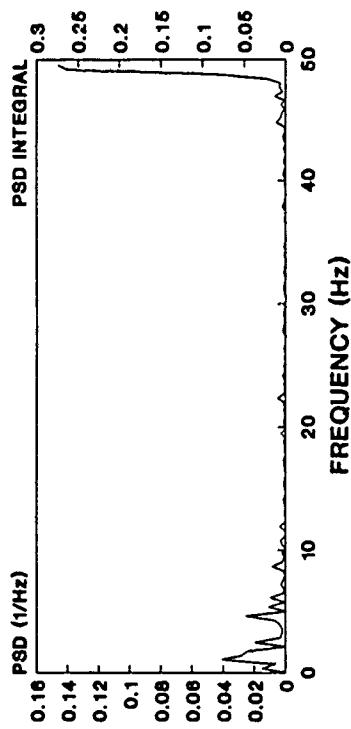
MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 180

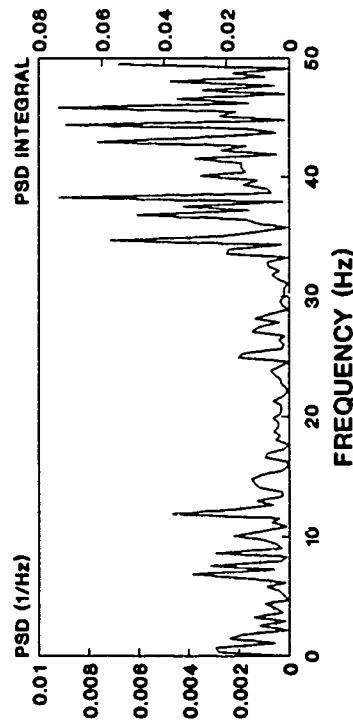
MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 180

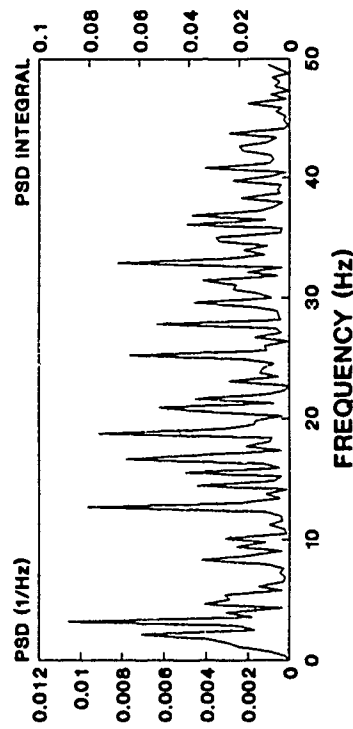
MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 180

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.69 - THETA 30 - AZ 180

DATA REPORT

SHAPE:	RECTANGLE
DECLINATION [THETA (degrees)]:	30
DIMENSIONS [LxWxH (in)]:	4.54 x 7.96 x 4.46
WEIGHT (gm):	750.9
TORSION FREQUENCY (Hz):	98
LATERAL (SIDE BEND) FREQUENCY (Hz):	116
NORMAL (AFT BEND) FREQUENCY (Hz):	111
AZIMUTHS (degrees):	0, 30, 45, 60, 90, 120, 135, 150, 180

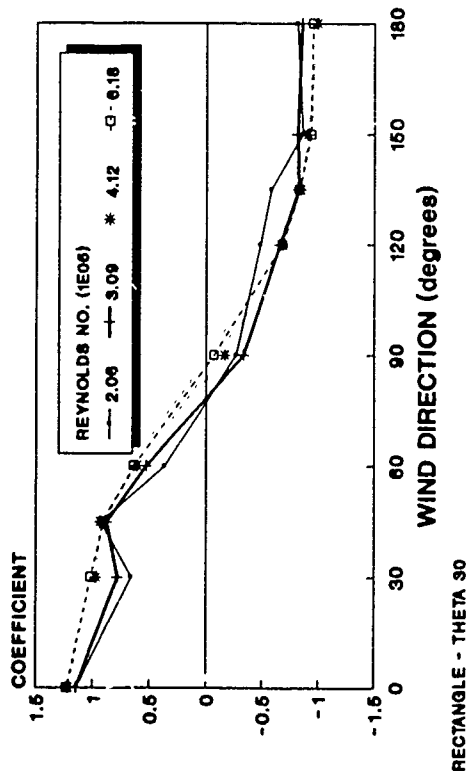
GRAPH CORRECTIONS:

- The mean value of the **ROLL** moment coefficients should be divided by 12.
- The PSD and PSD Integral values of the **ROLL** moment coefficients should be divided by 144.

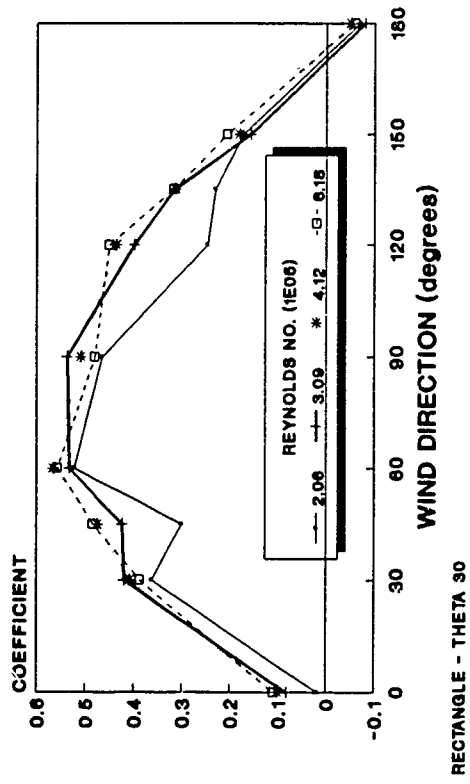
OBSERVATIONS:

- Very good shedding is seen in the lateral data at 0 and 30 degrees azimuth. This shedding is multifrequency in nature.
- Good shedding data can be seen in the lateral and roll data at 150 degrees azimuth.
- Poor shedding data can be seen in the lateral and roll data at 135 degrees azimuth.
- The 15.176 Hz spike is seen throughout the data.

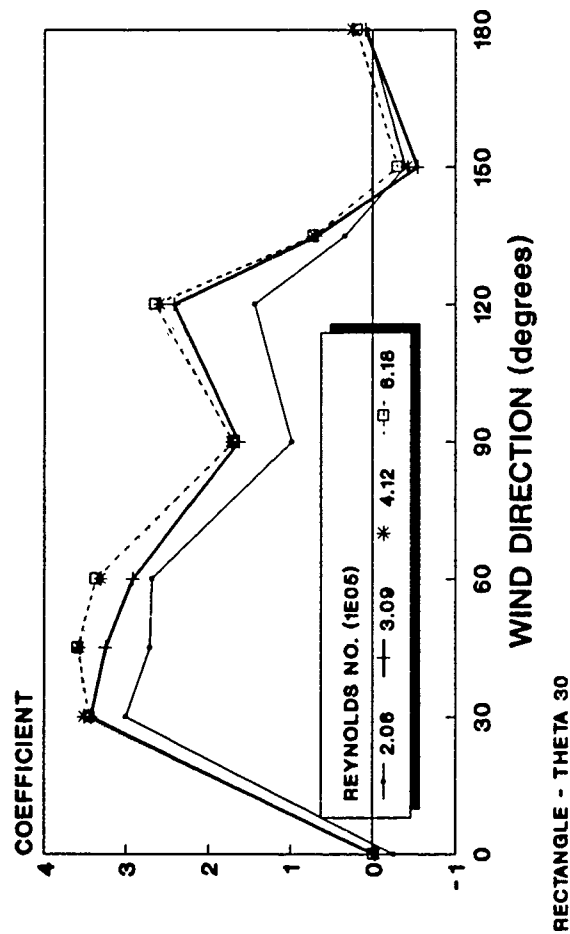
MEAN FORCE COEFFICIENT NORMAL DIRECTION



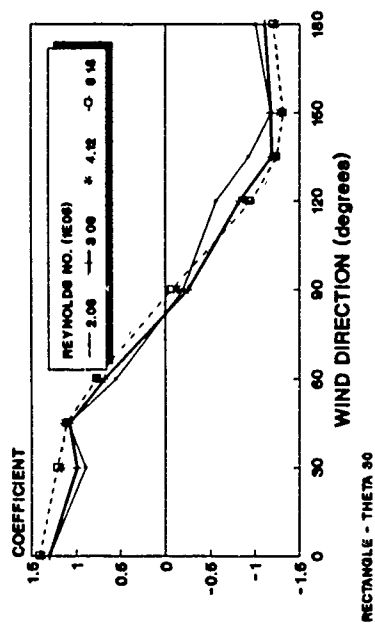
MEAN FORCE COEFFICIENT LATERAL DIRECTION



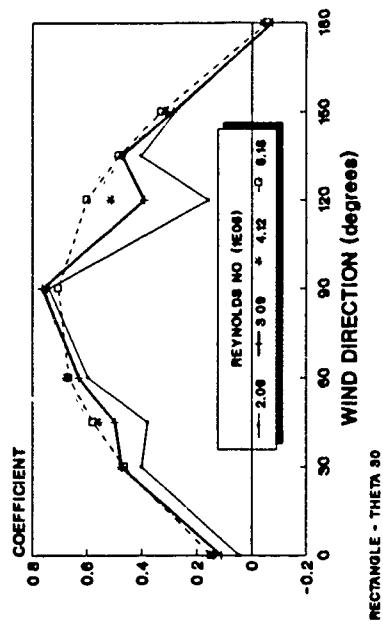
MEAN MOMENT COEFFICIENT ROLL DIRECTION



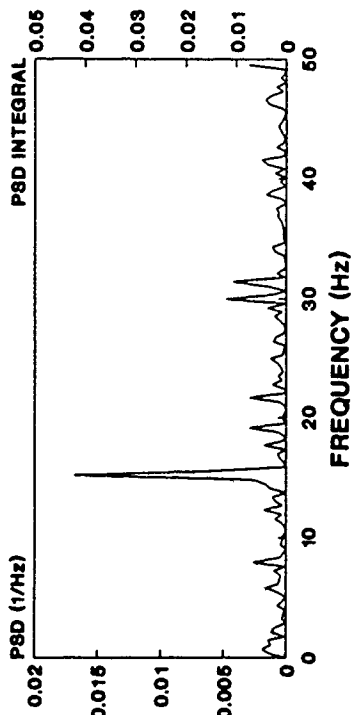
MEAN MOMENT COEFFICIENT NORMAL DIRECTION



MEAN MOMENT COEFFICIENT LATERAL DIRECTION

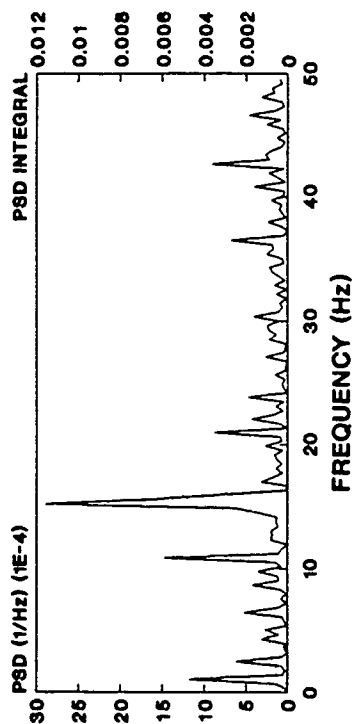


FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



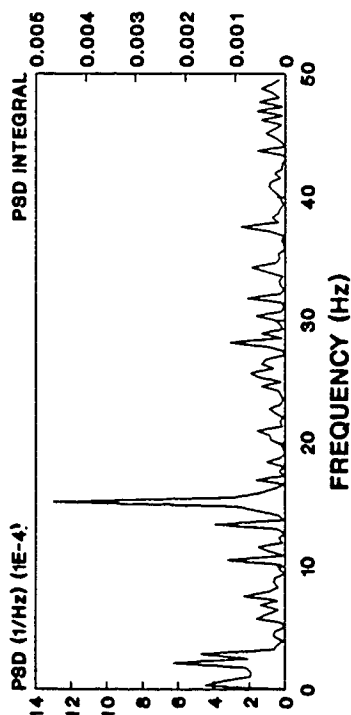
RECTANGLE - THETA 30 - AZIMUTH - 000

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



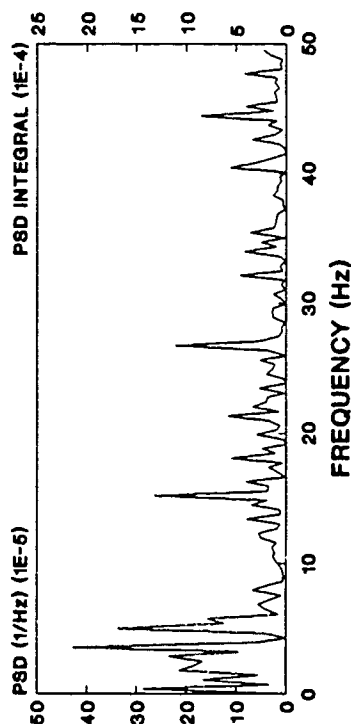
RECTANGLE - THETA 30 - AZIMUTH - 000

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



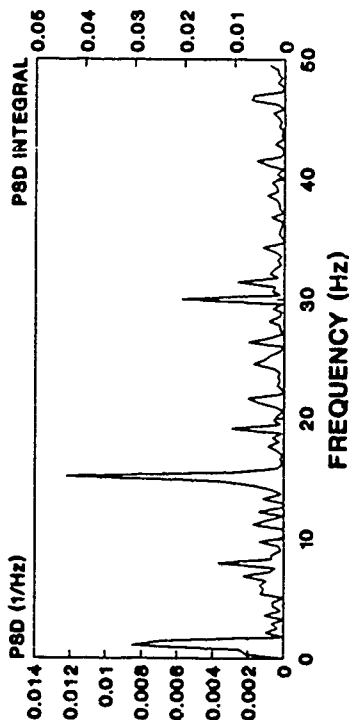
RECTANGLE - THETA 30 - AZIMUTH - 000

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



RECTANGLE - THETA 30 - AZIMUTH - 000

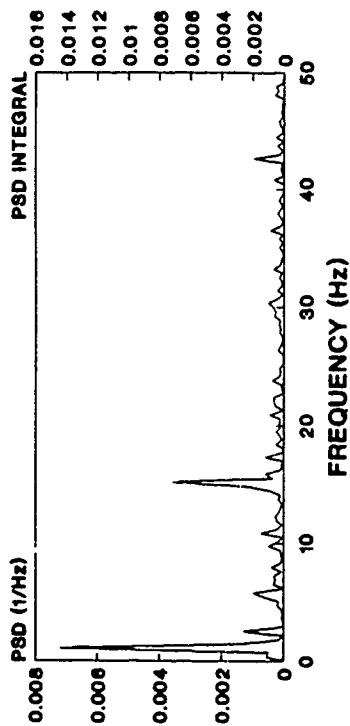
MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 000

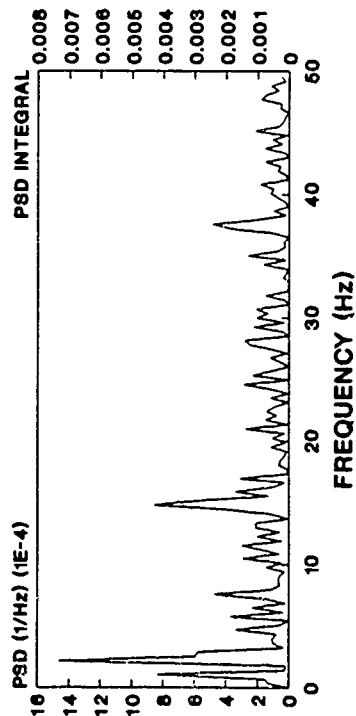
MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 000

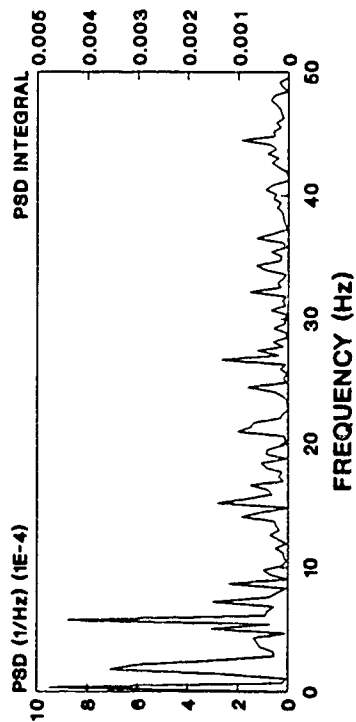
MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 000

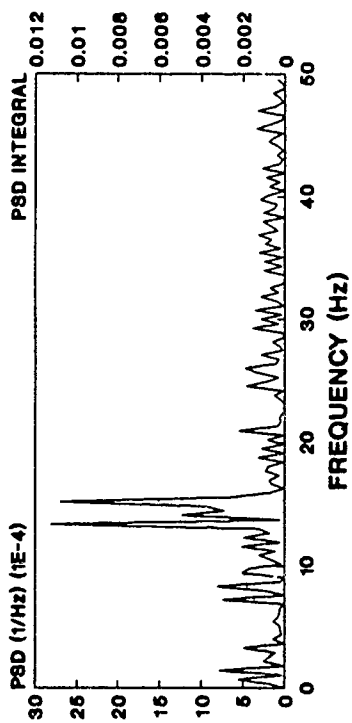
MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 000

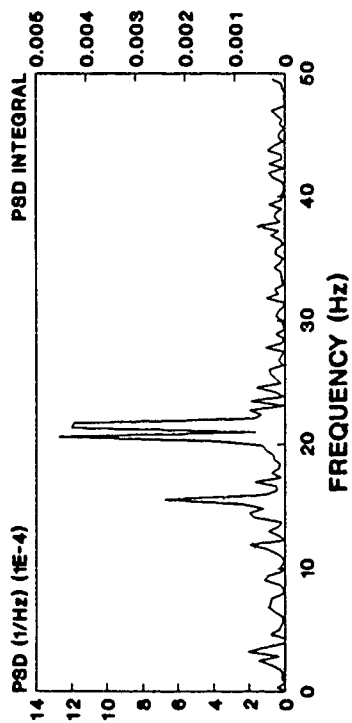
FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 000

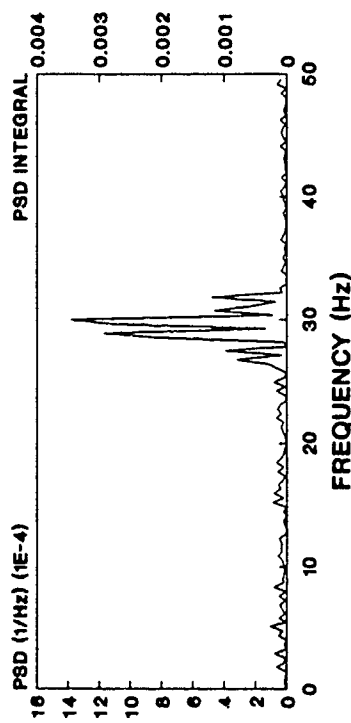
FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 000

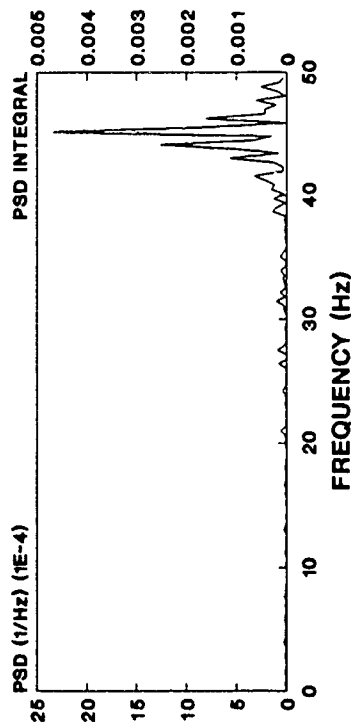
FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 000

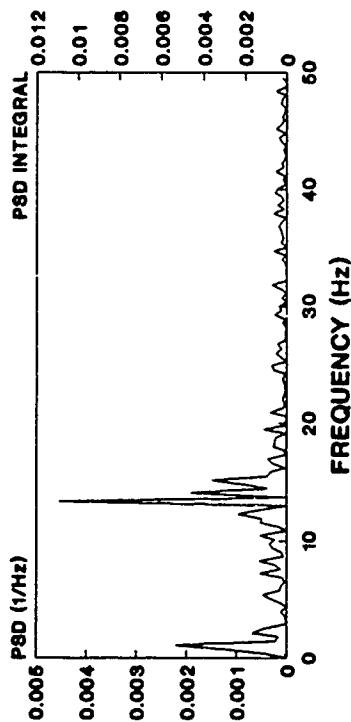
FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



PSD PSD INTEGRAL

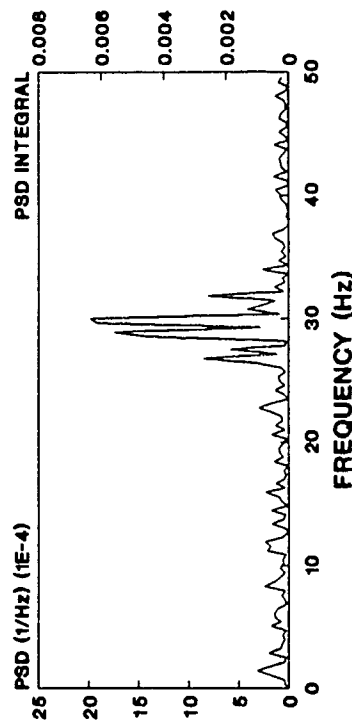
RECTANGLE - THETA 30 - AZIMUTH - 000

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



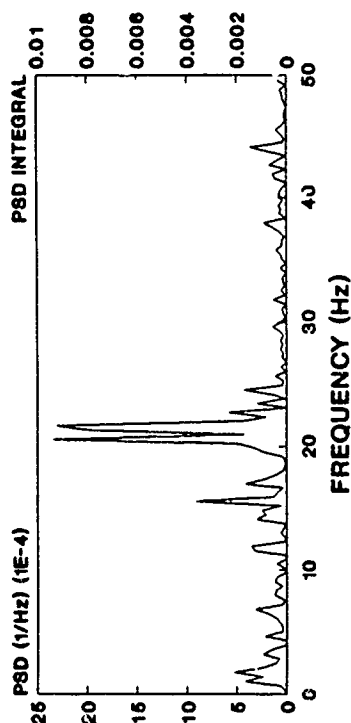
RECTANGLE - THETA 30 - AZIMUTH - 000

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



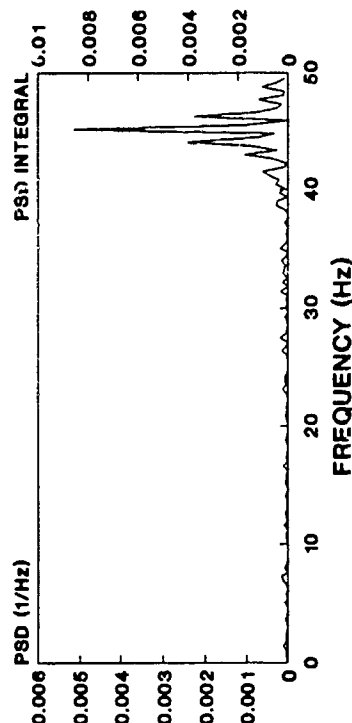
RECTANGLE - THETA 30 - AZIMUTH - 000

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



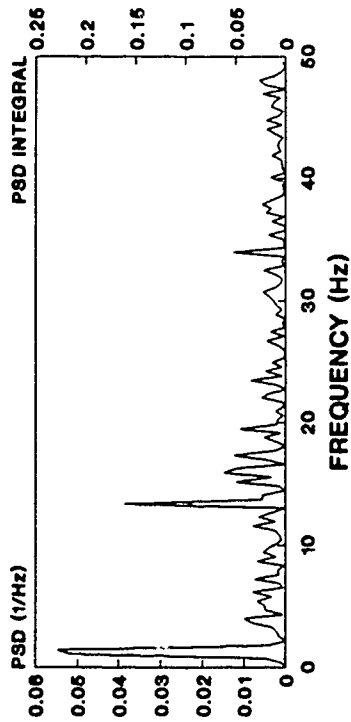
RECTANGLE - THETA 30 - AZIMUTH - 000

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



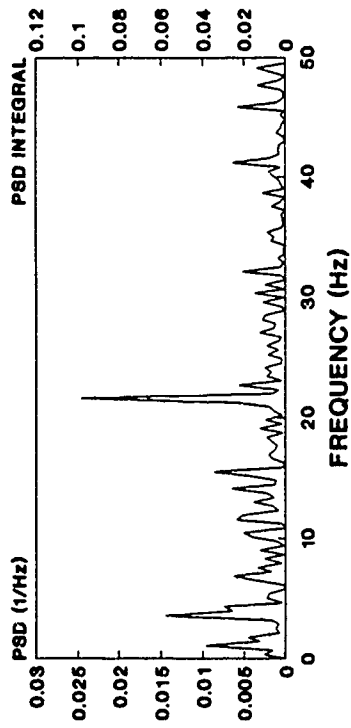
RECTANGLE - THETA 30 - AZIMUTH - 000

MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



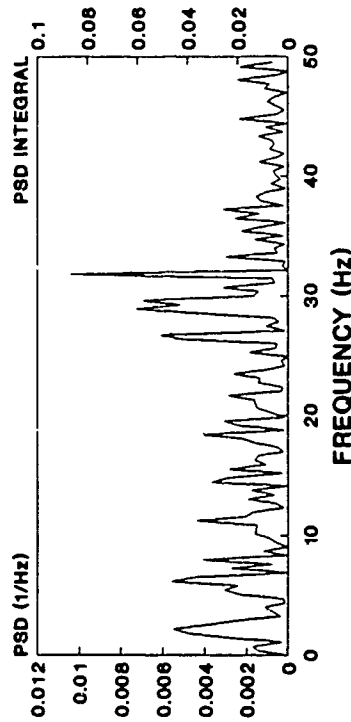
RECTANGLE - THETA 30 - AZIMUTH - 000

MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



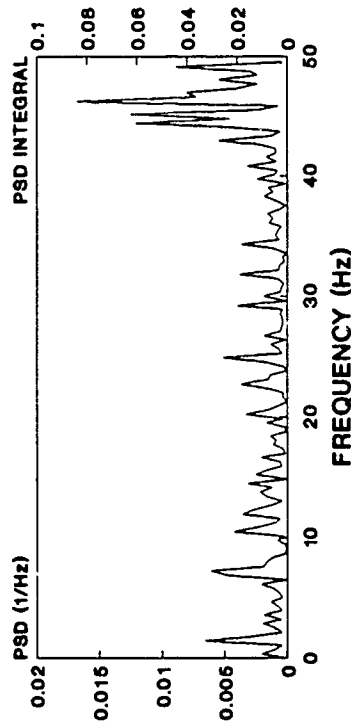
RECTANGLE - THETA 30 - AZIMUTH - 000

MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



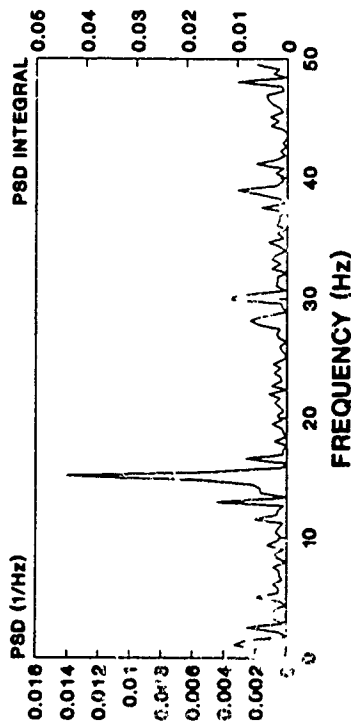
RECTANGLE - THETA 30 - AZIMUTH - 000

MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



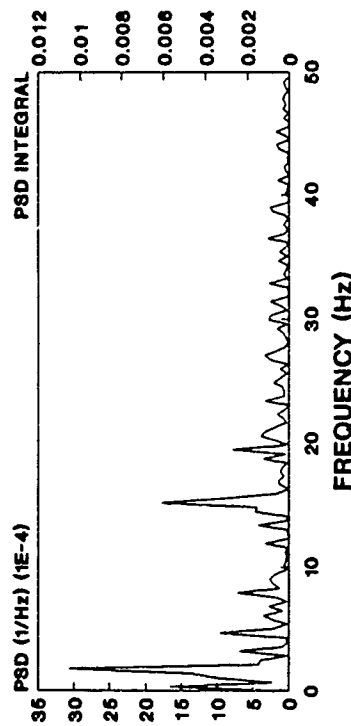
RECTANGLE - THETA 30 - AZIMUTH - 000

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



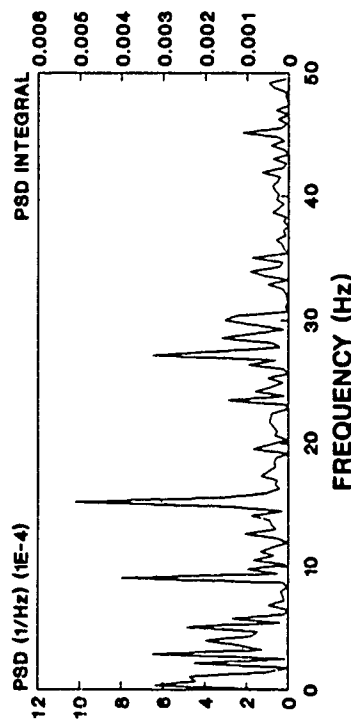
RECTANGLE - THETA 30 - AZIMUTH - 030

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



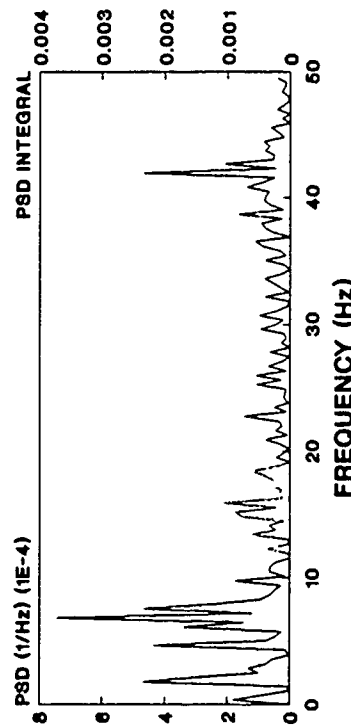
RECTANGLE - THETA 30 - AZIMUTH - 030

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



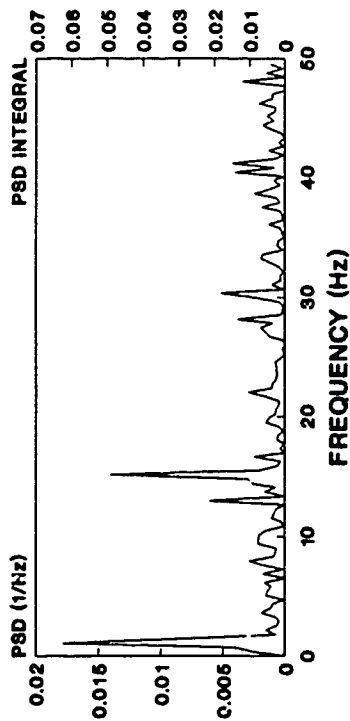
RECTANGLE - THETA 30 - AZIMUTH - 030

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



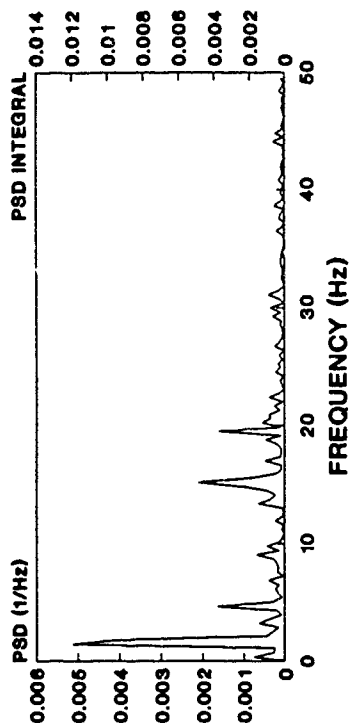
RECTANGLE - THETA 30 - AZIMUTH - 030

MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



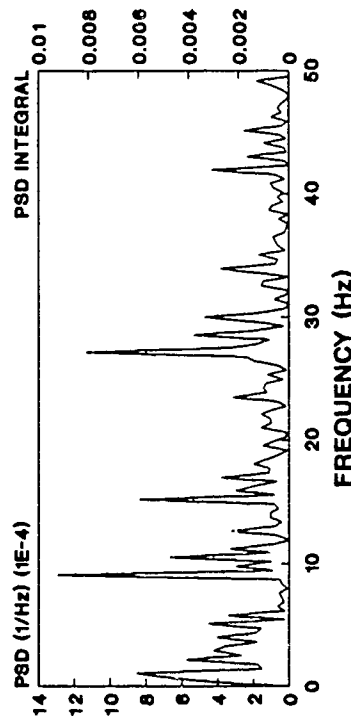
RECTANGLE - THETA 30 - AZIMUTH - 030

MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



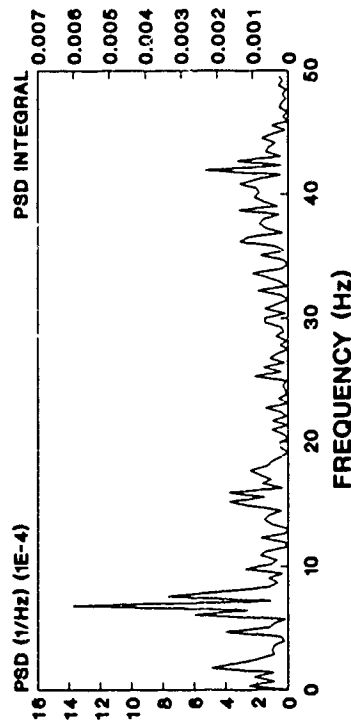
RECTANGLE - THETA 30 - AZIMUTH - 030

MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



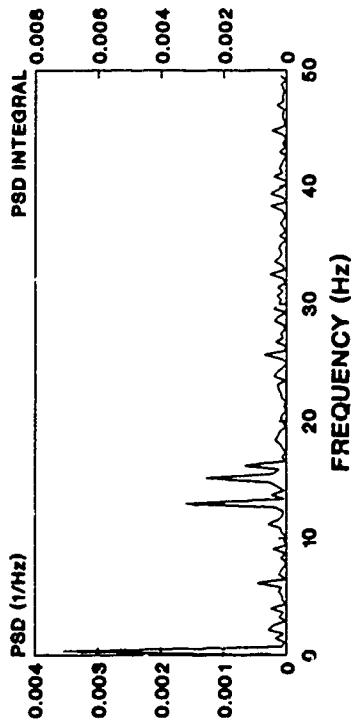
RECTANGLE - THETA 30 - AZIMUTH - 030

MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



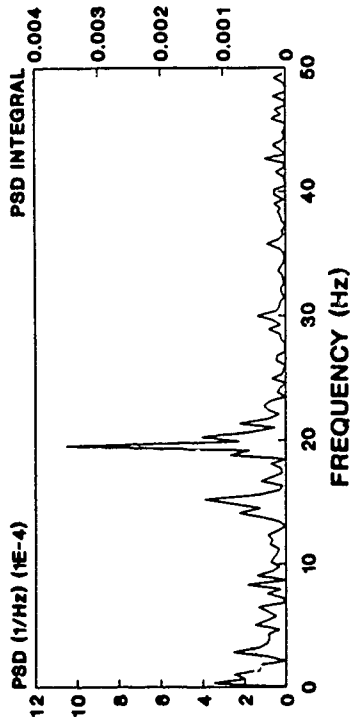
RECTANGLE - THETA 30 - AZIMUTH - 030

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



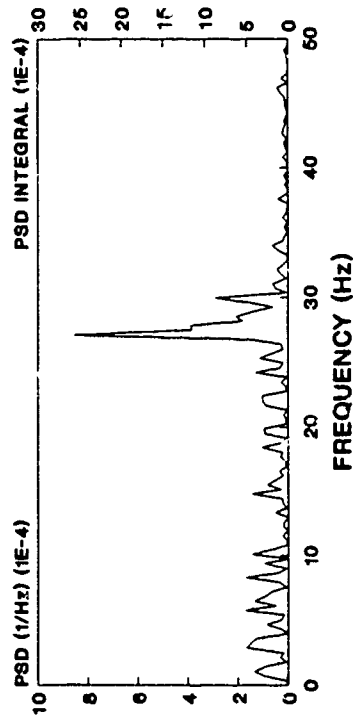
RECTANGLE - THETA 30 - AZIMUTH - 030

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



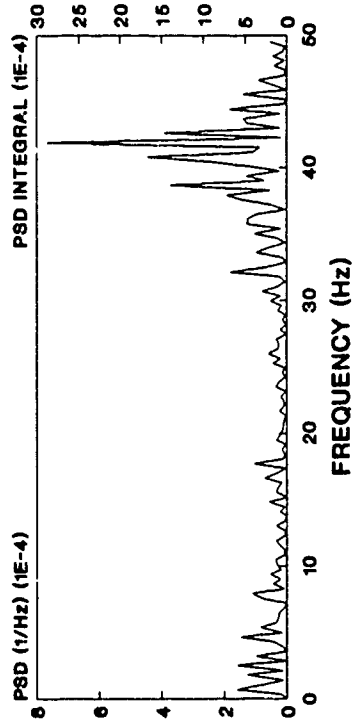
RECTANGLE - THETA 30 - AZIMUTH - 030

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



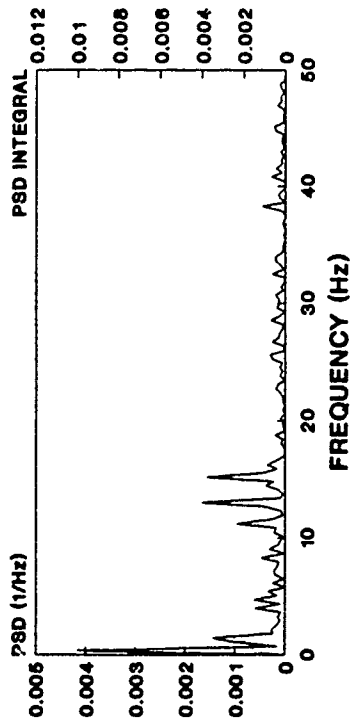
RECTANGLE - THETA 30 - AZIMUTH - 030

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



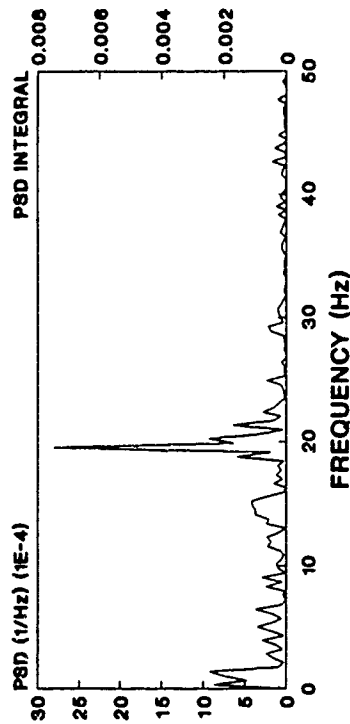
RECTANGLE - THETA 30 - AZIMUTH - 030

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



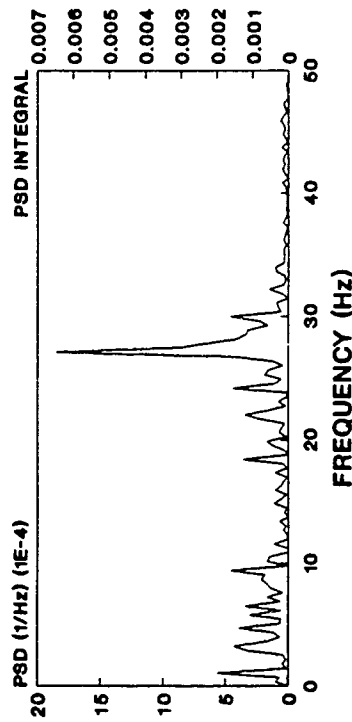
RECTANGLE - THETA 30 - AZIMUTH - 030

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



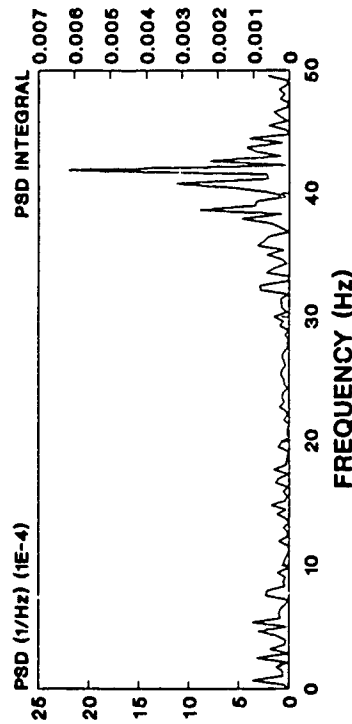
RECTANGLE - THETA 30 - AZIMUTH - 030

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



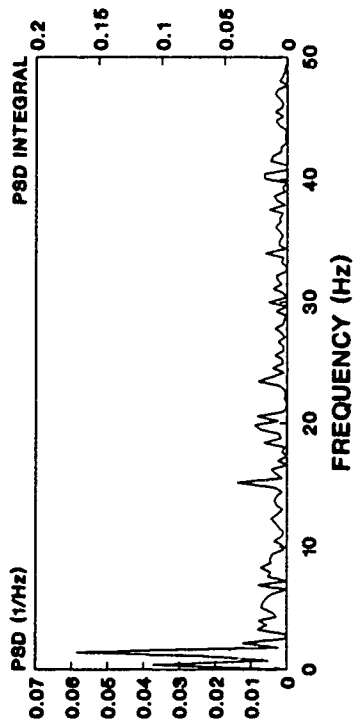
RECTANGLE - THETA 30 - AZIMUTH - 030

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



RECTANGLE - THETA 30 - AZIMUTH - 030

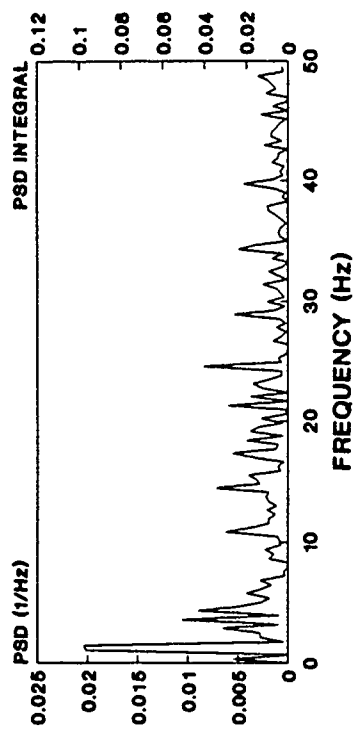
MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 030

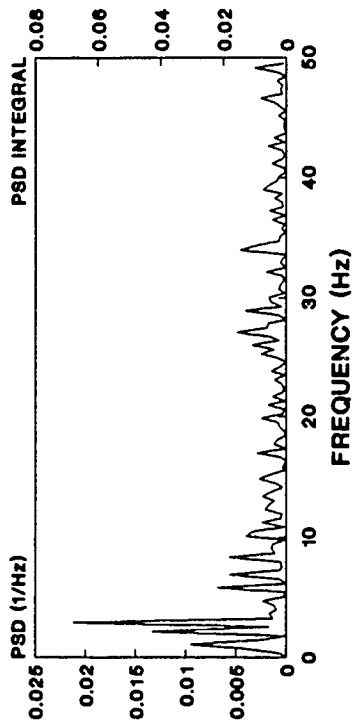
MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 030

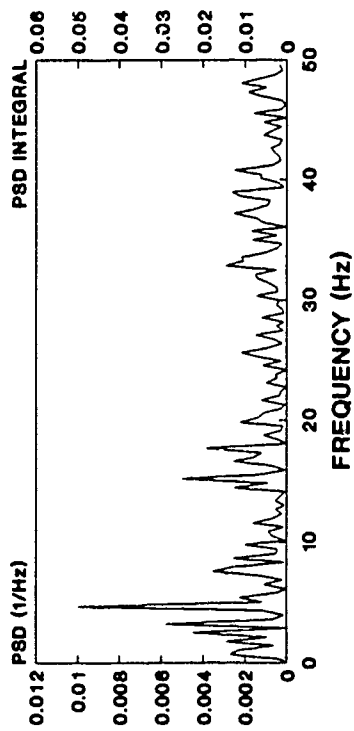
MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 030

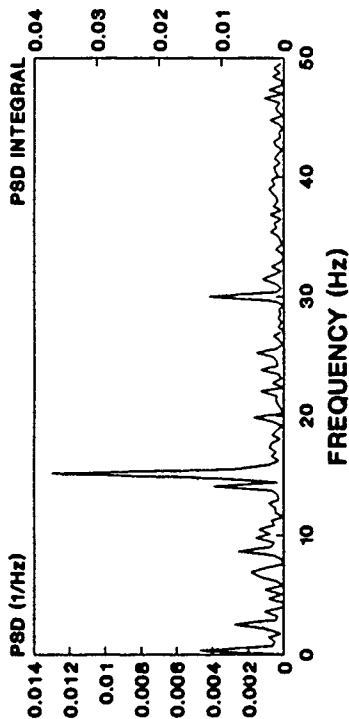
MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

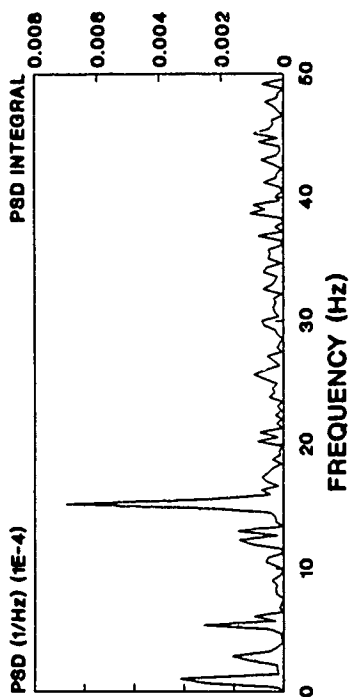
RECTANGLE - THETA 30 - AZIMUTH - 030

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



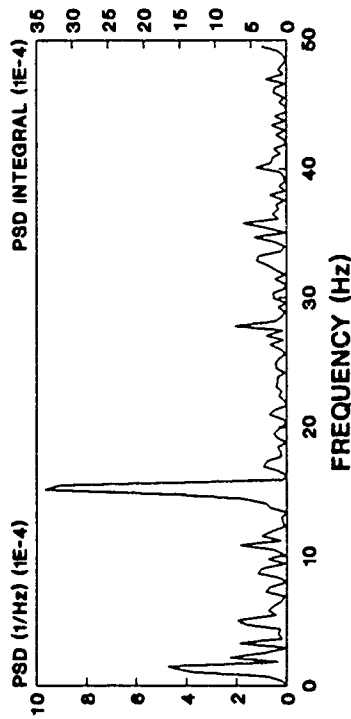
RECTANGLE - THETA 30 - AZIMUTH - 045

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



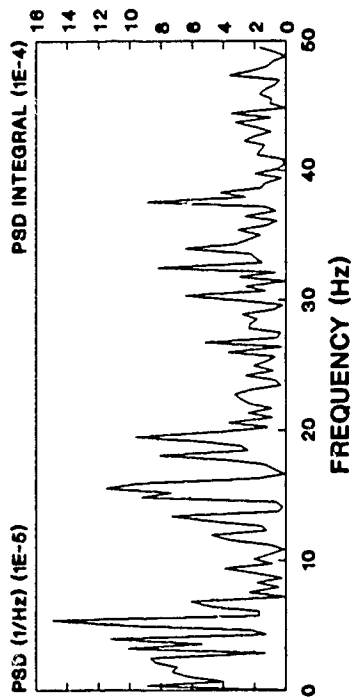
RECTANGLE - THETA 30 - AZIMUTH - 045

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



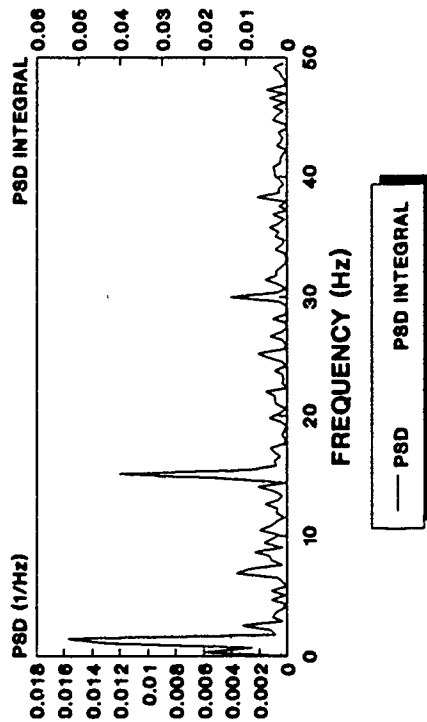
RECTANGLE - THETA 30 - AZIMUTH - 045

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



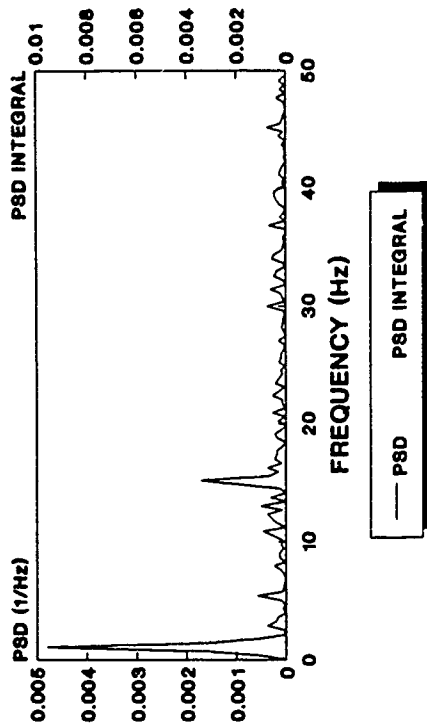
RECTANGLE - THETA 30 - AZIMUTH - 045

MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



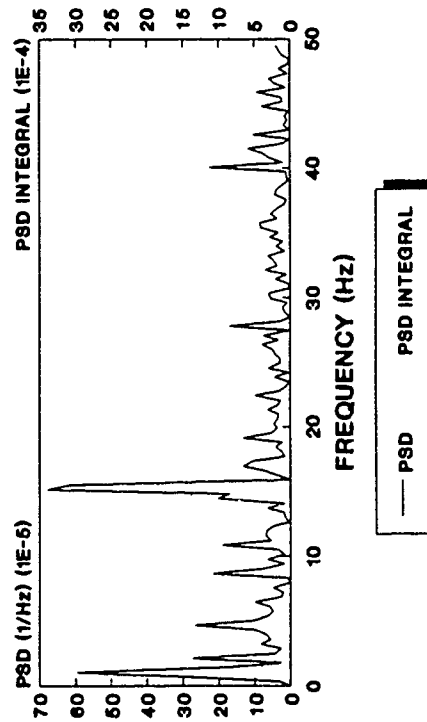
RECTANGLE - THETA 30 - AZIMUTH - 046

MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



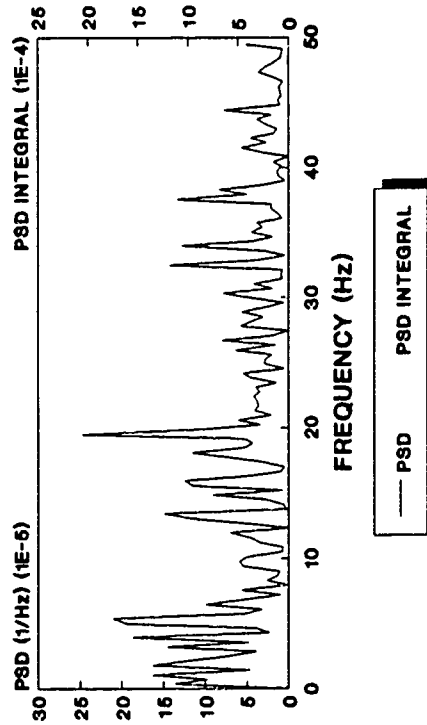
RECTANGLE - THETA 30 - AZIMUTH - 046

MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



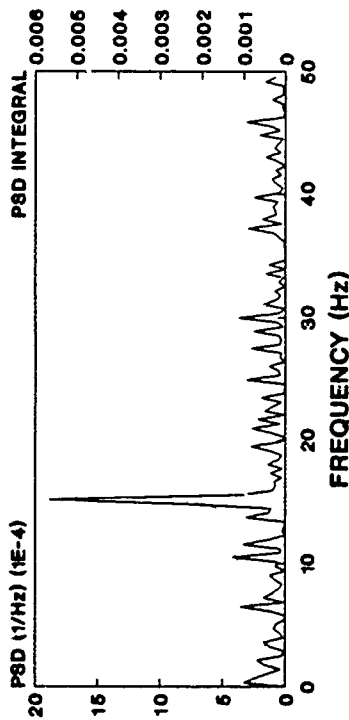
RECTANGLE - THETA 30 - AZIMUTH - 046

MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



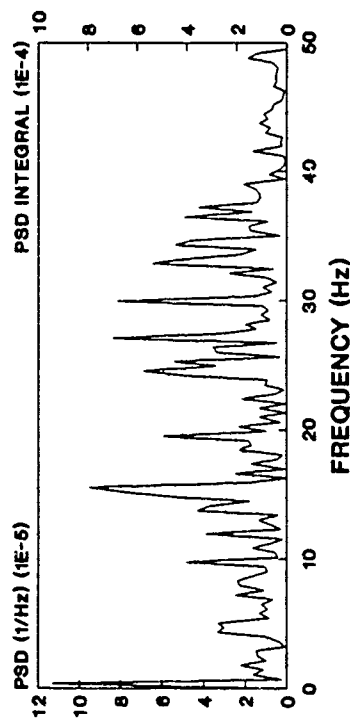
RECTANGLE - THETA 30 - AZIMUTH - 046

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



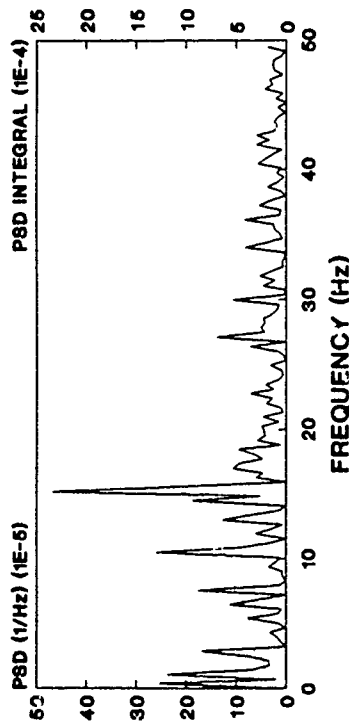
RECTANGLE - THETA 30 - AZIMUTH - 045

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



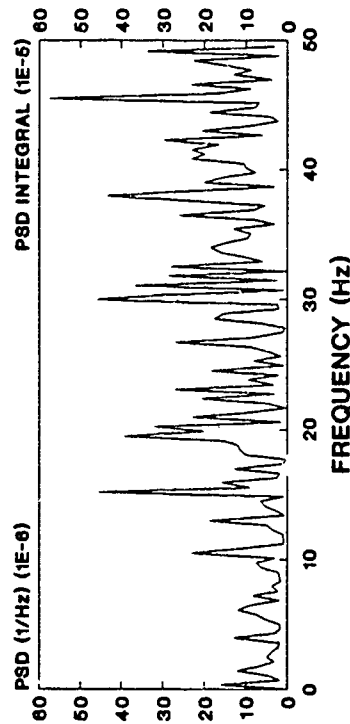
RECTANGLE - THETA 30 - AZIMUTH - 045

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



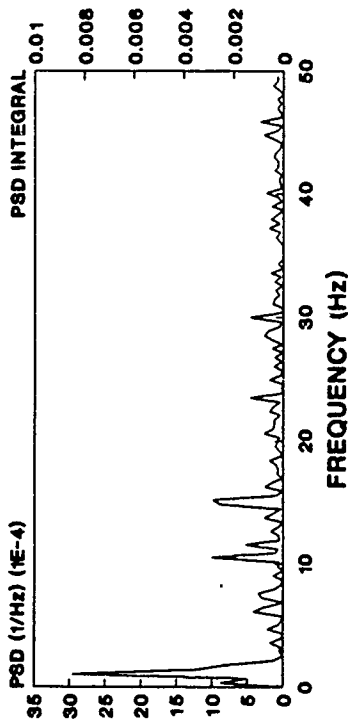
RECTANGLE - THETA 30 - AZIMUTH - 045

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



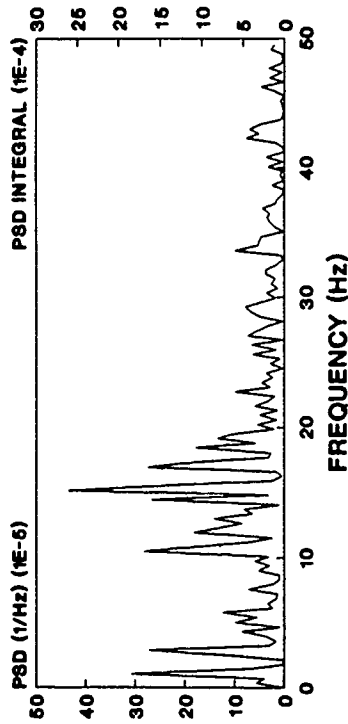
RECTANGLE - THETA 30 - AZIMUTH - 045

MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



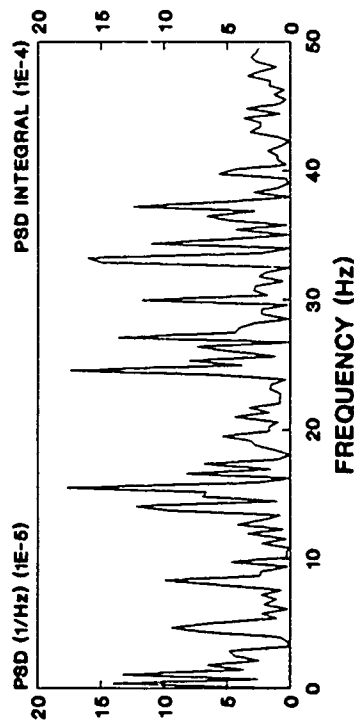
RECTANGLE - THETA 30 - AZIMUTH - 045

MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



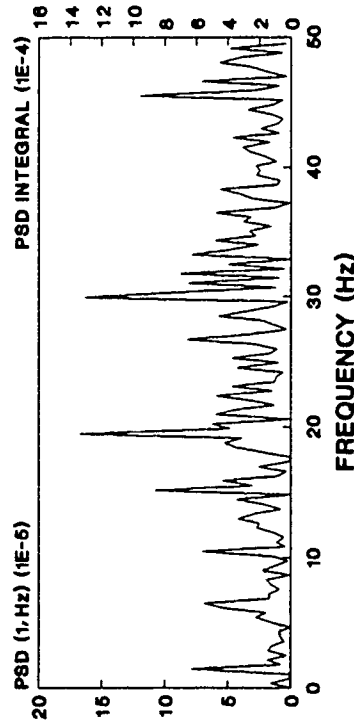
RECTANGLE - THETA 30 - AZIMUTH - 045

MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



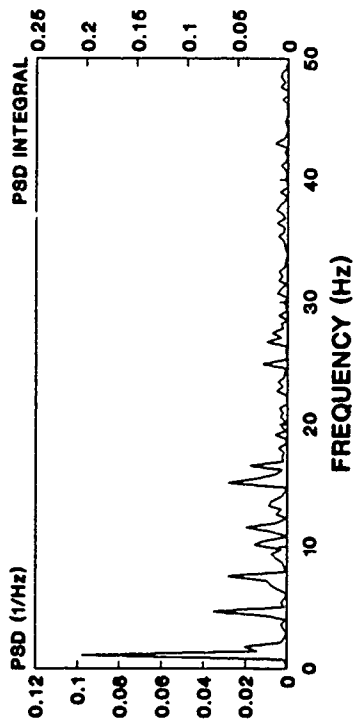
RECTANGLE - THETA 30 - AZIMUTH - 045

MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



RECTANGLE - THETA 30 - AZIMUTH - 045

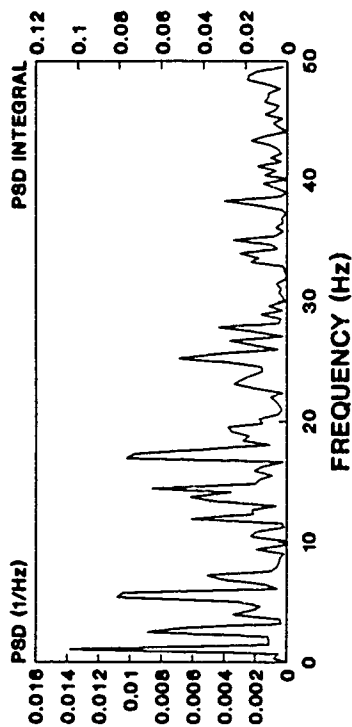
MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 045

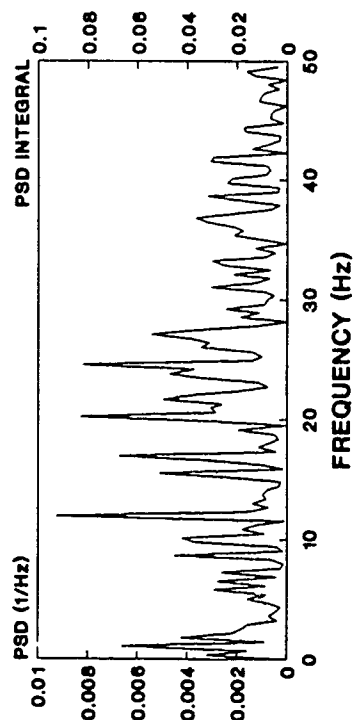
MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 045

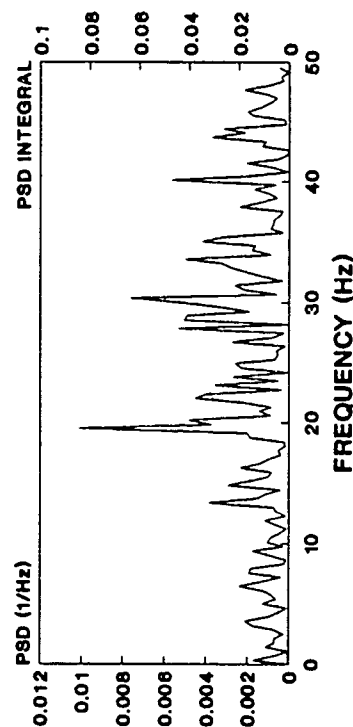
MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 045

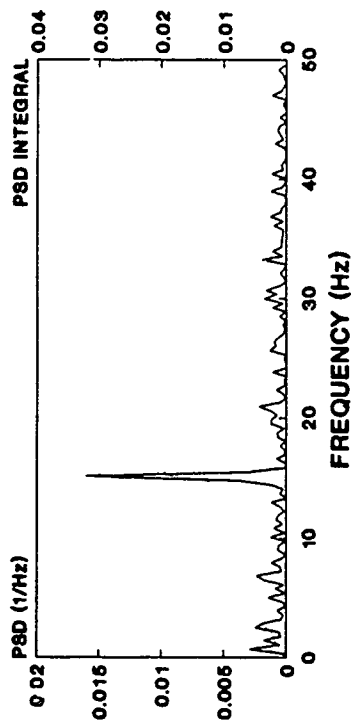
MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

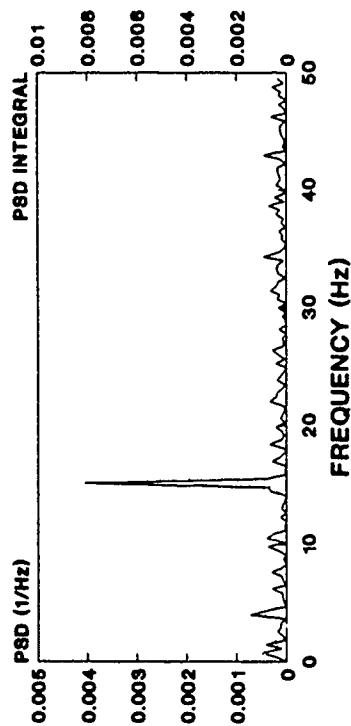
RECTANGLE - THETA 30 - AZIMUTH - 045

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



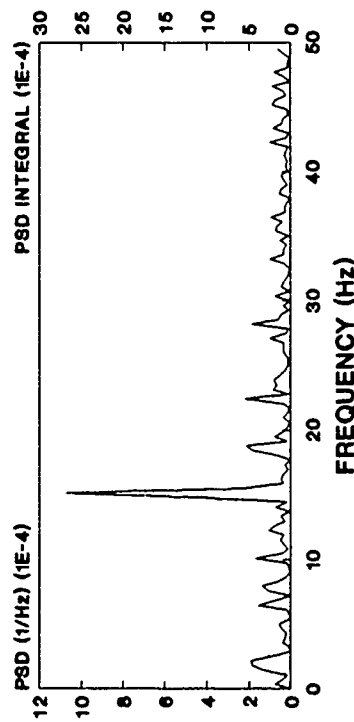
RECTANGLE - THETA 30 - AZIMUTH - 060

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



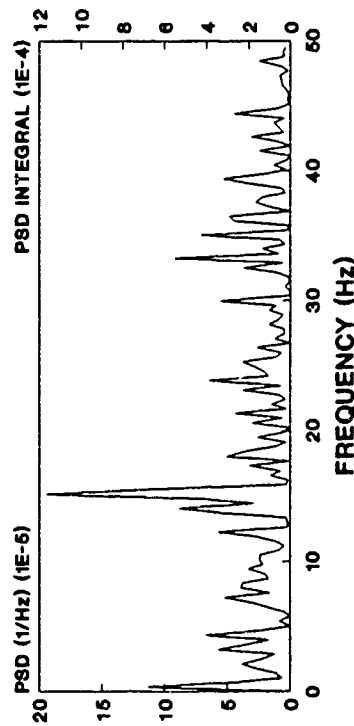
RECTANGLE - THETA 30 - AZIMUTH - 060

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



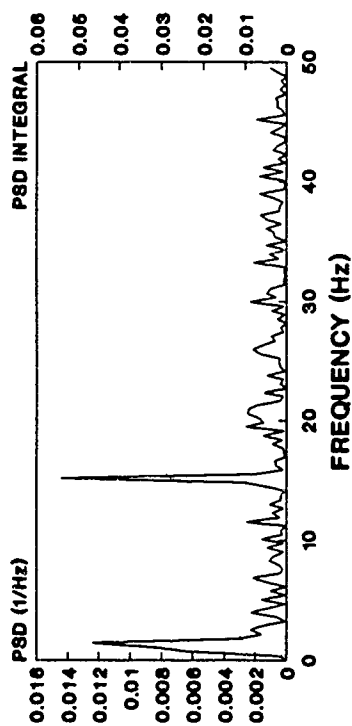
RECTANGLE - THETA 30 - AZIMUTH - 060

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



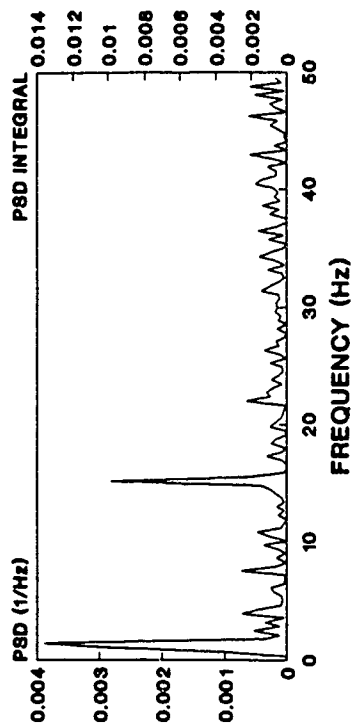
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



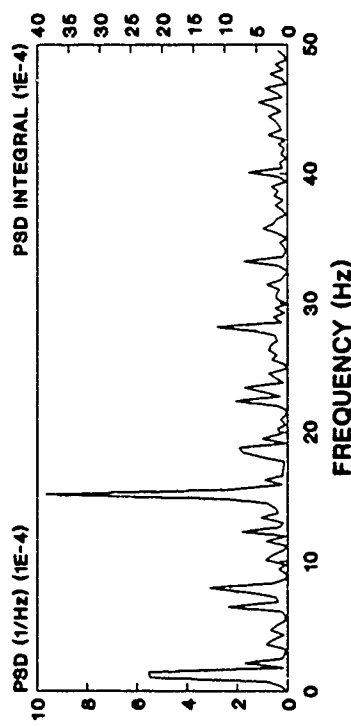
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



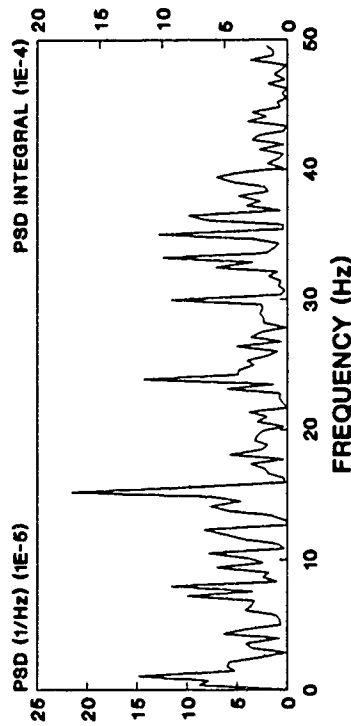
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



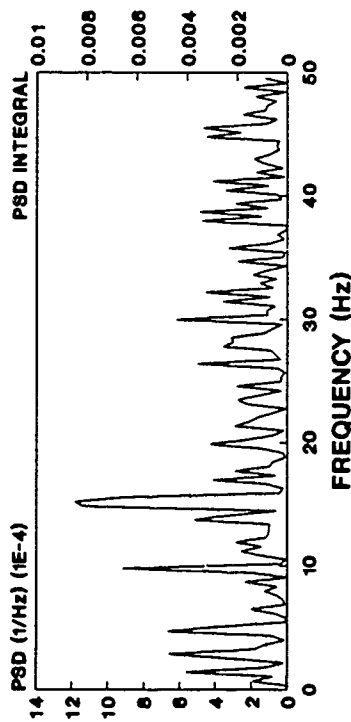
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



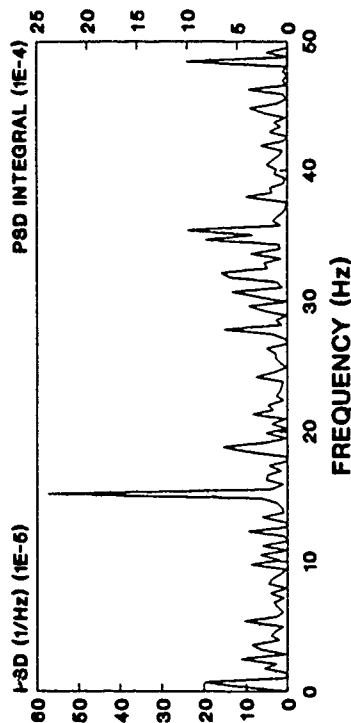
RECTANGLE - THETA 30 - AZIMUTH - 060

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



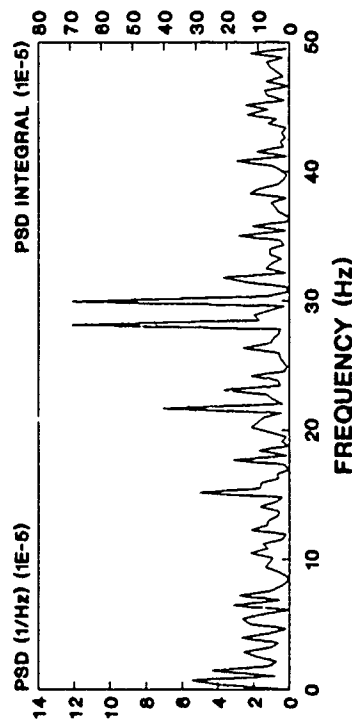
RECTANGLE - THETA 30 - AZIMUTH - 060

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



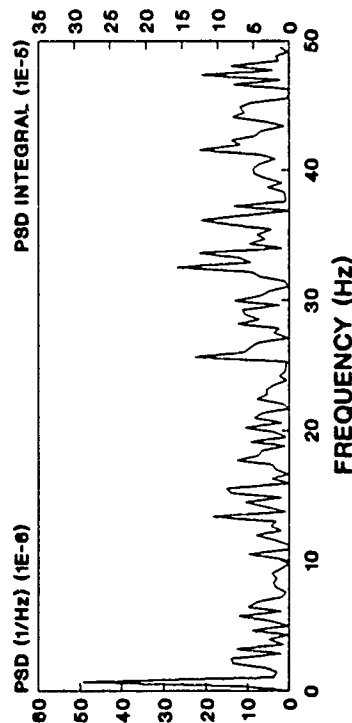
RECTANGLE - THETA 30 - AZIMUTH - 060

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



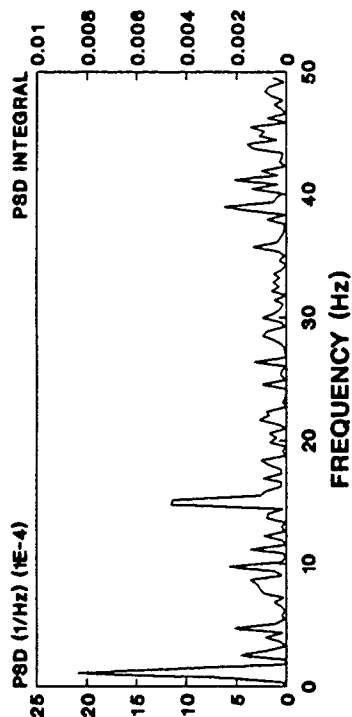
RECTANGLE - THETA 30 - AZIMUTH - 060

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



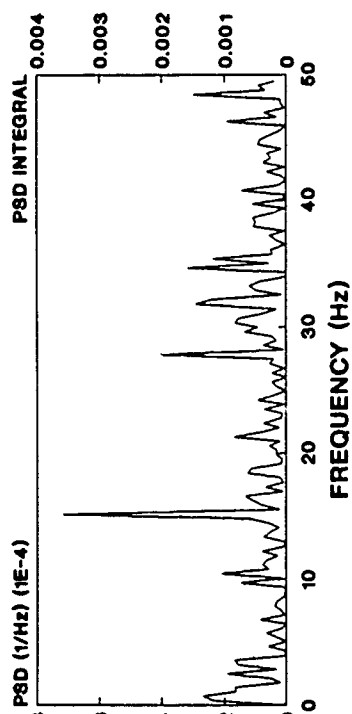
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



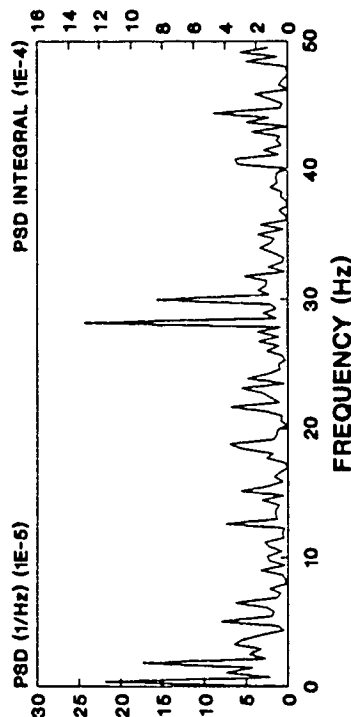
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



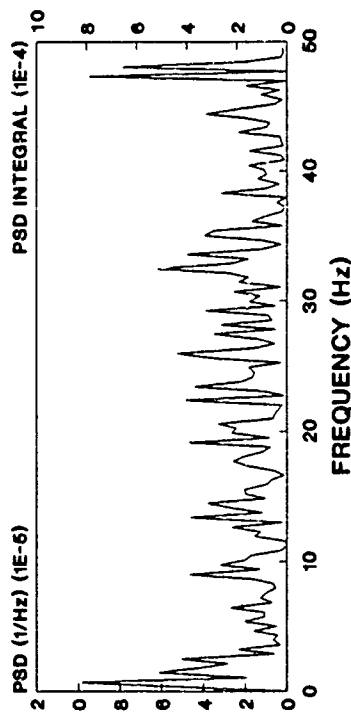
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



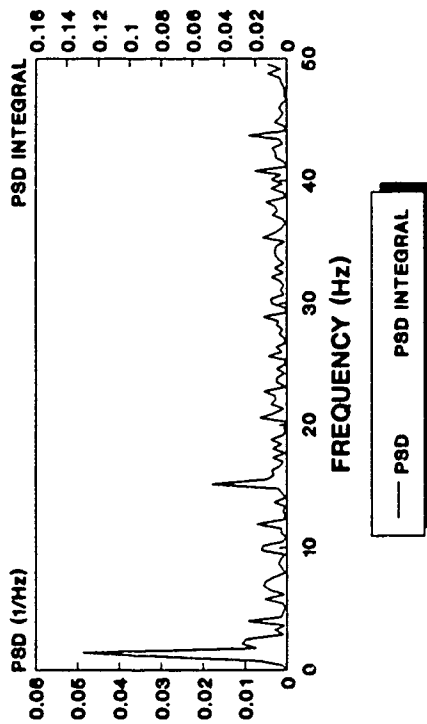
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



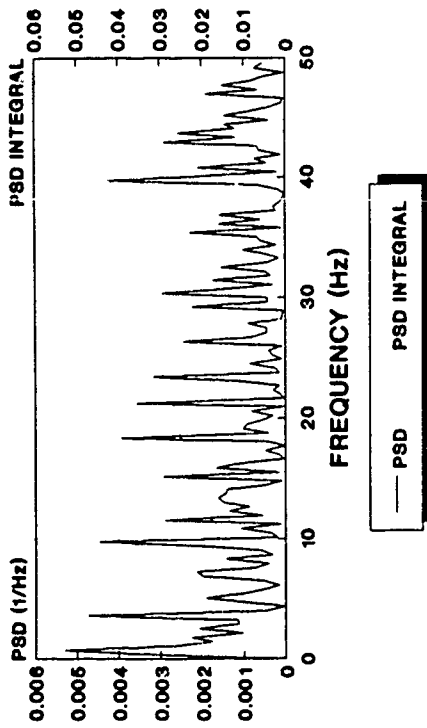
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



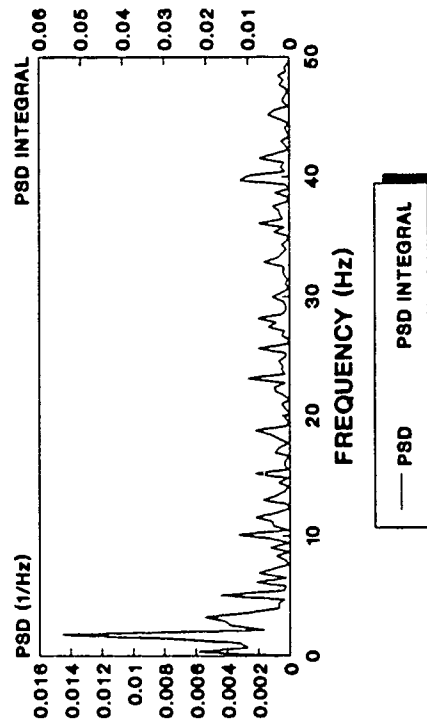
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



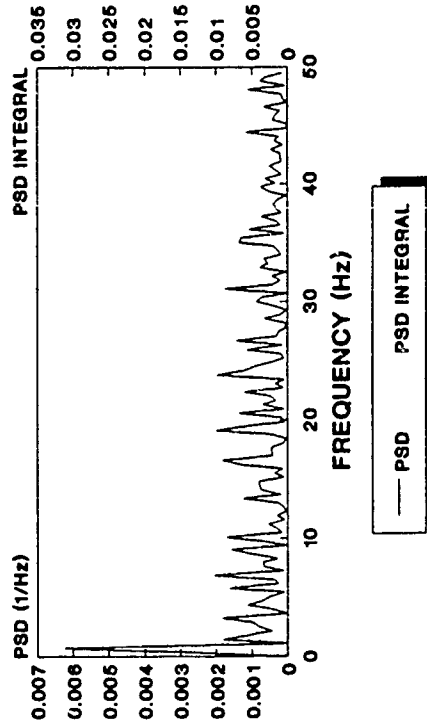
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



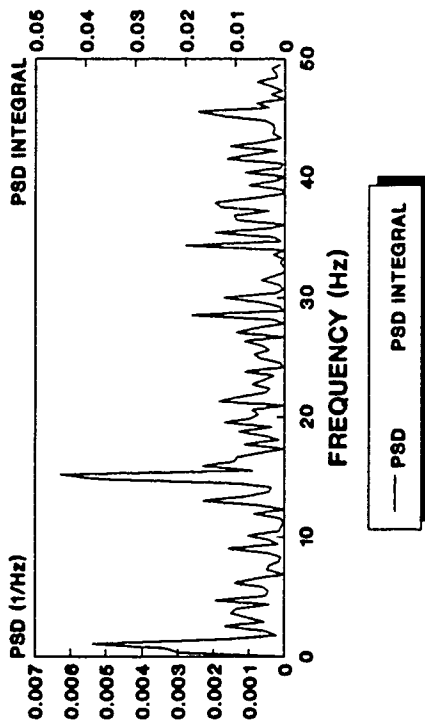
RECTANGLE - THETA 30 - AZIMUTH - 060

MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



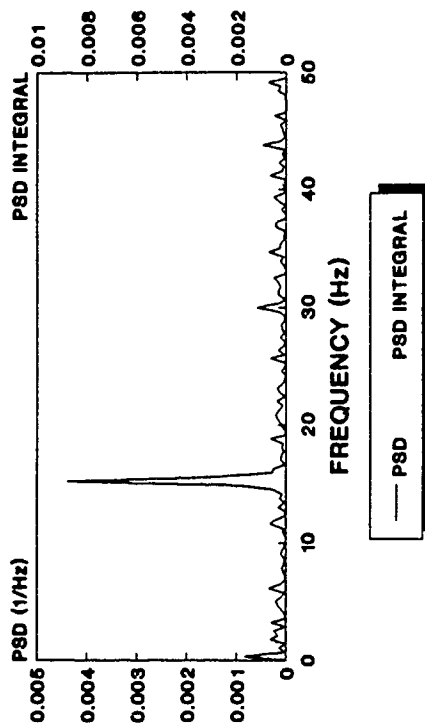
RECTANGLE - THETA 30 - AZIMUTH - 060

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



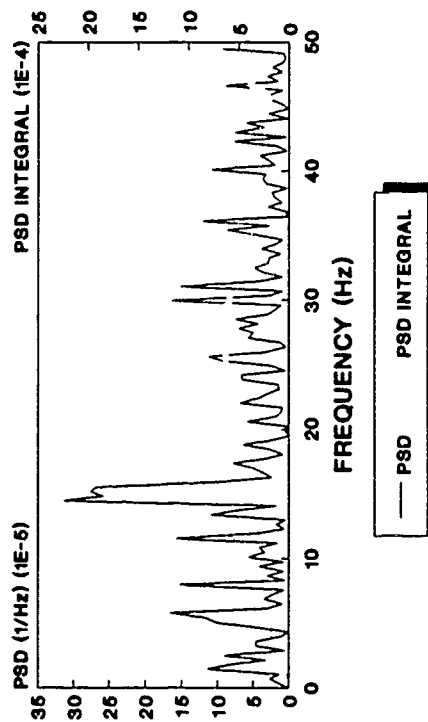
RECTANGLE - THETA 30 - AZIMUTH - 090

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



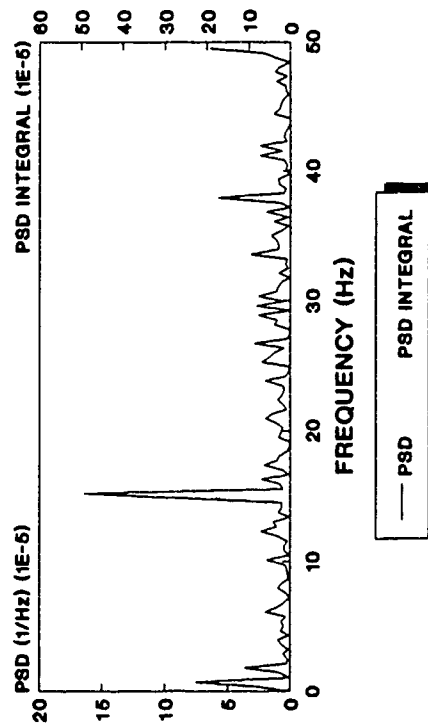
RECTANGLE - THETA 30 - AZIMUTH - 090

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



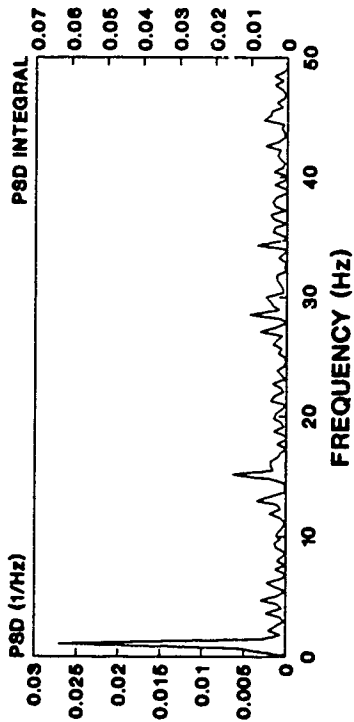
RECTANGLE - THETA 30 - AZIMUTH - 090

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



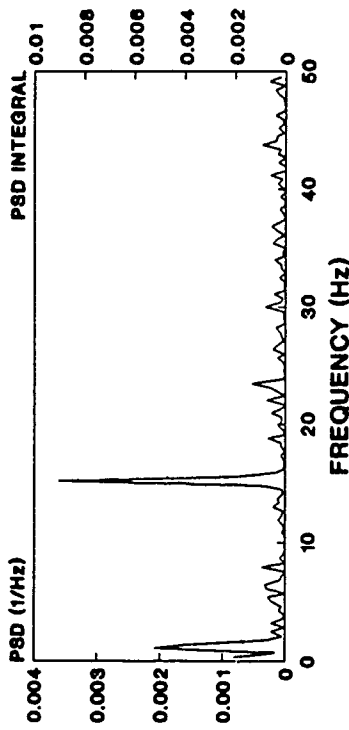
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



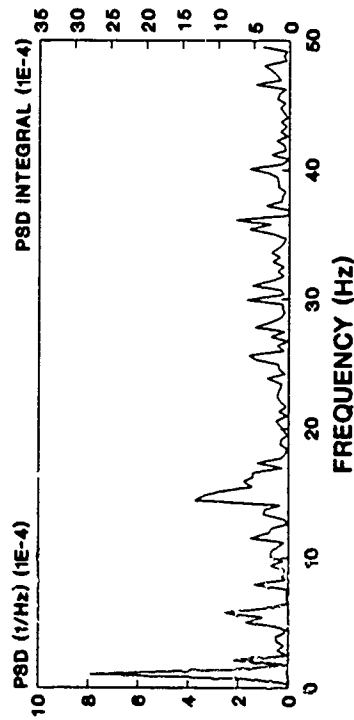
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



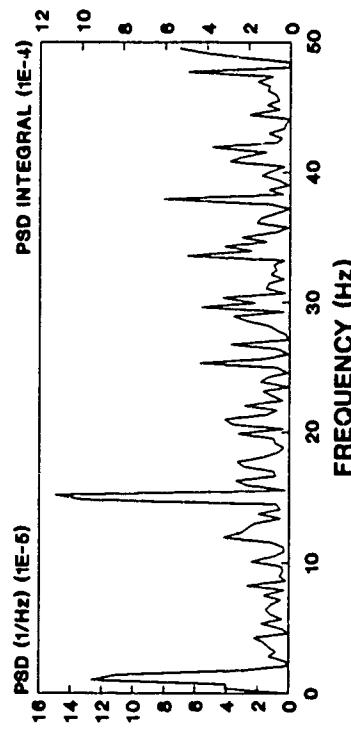
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



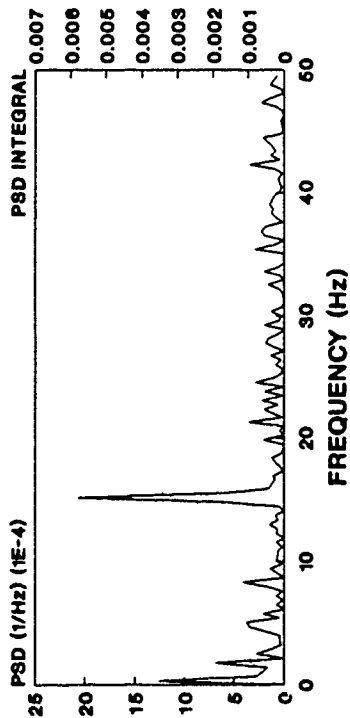
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



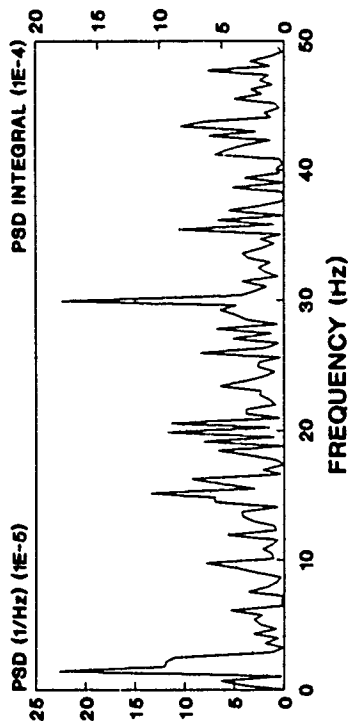
RECTANGLE - THETA 30 - AZIMUTH - 090

FORCE COEFF - LATERAL **60 FT/SEC NOMINAL**



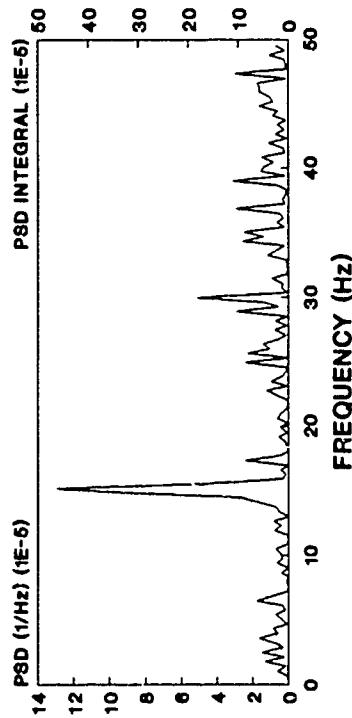
RECTANGLE - THETA 30 - AZIMUTH - 090

FORCE COEFF - LATERAL **90 FT/SEC NOMINAL**



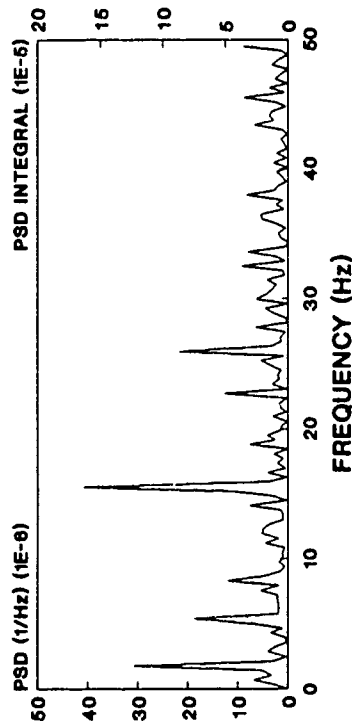
RECTANGLE - THETA 30 - AZIMUTH - 090

FORCE COEFF - LATERAL **120 FT/SEC NOMINAL**



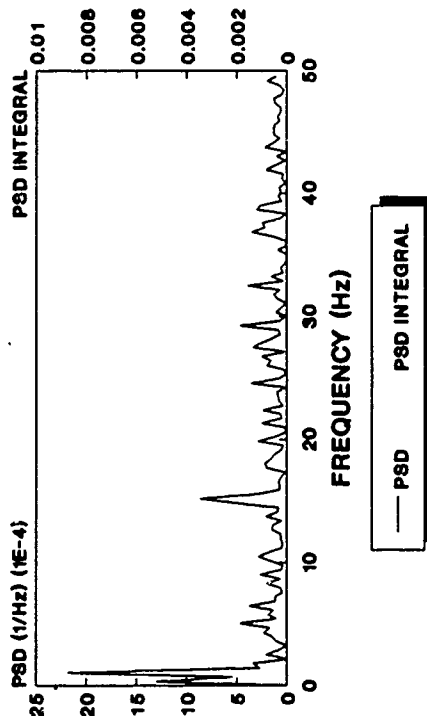
RECTANGLE - THETA 30 - AZIMUTH - 090

FORCE COEFF - LATERAL **180 FT/SEC NOMINAL**



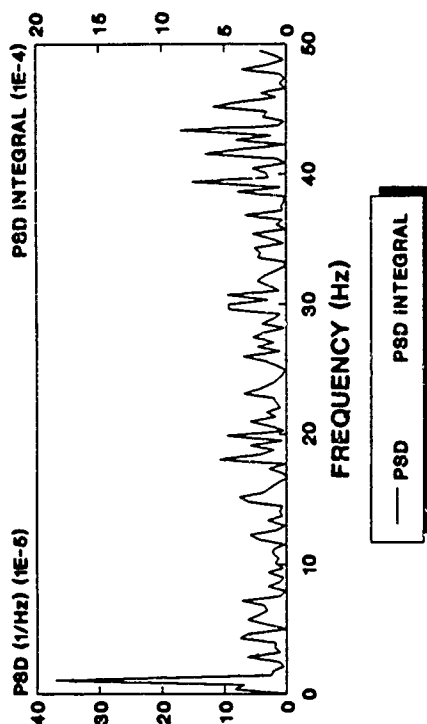
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



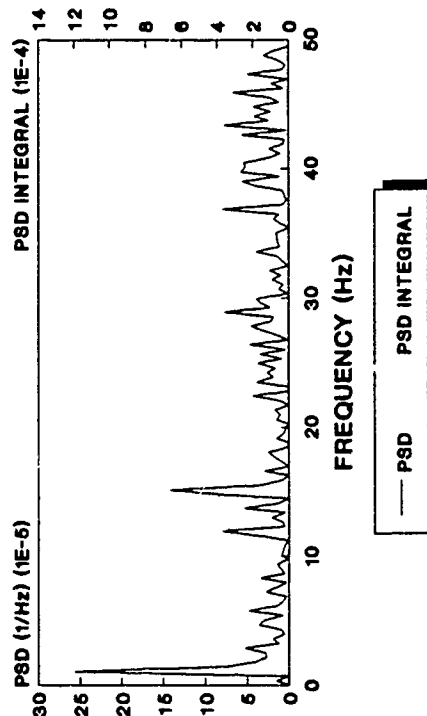
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



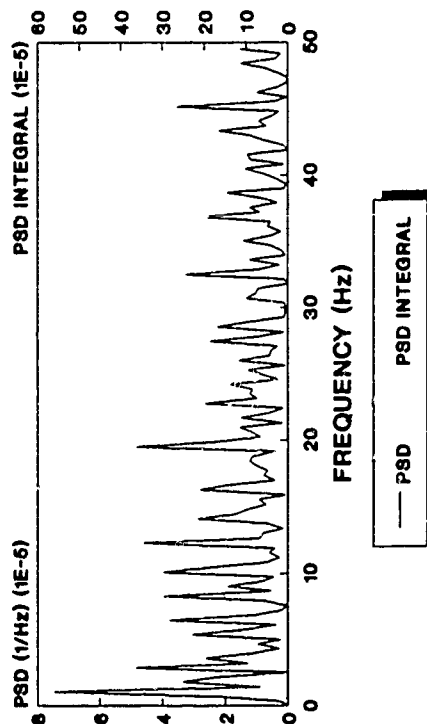
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



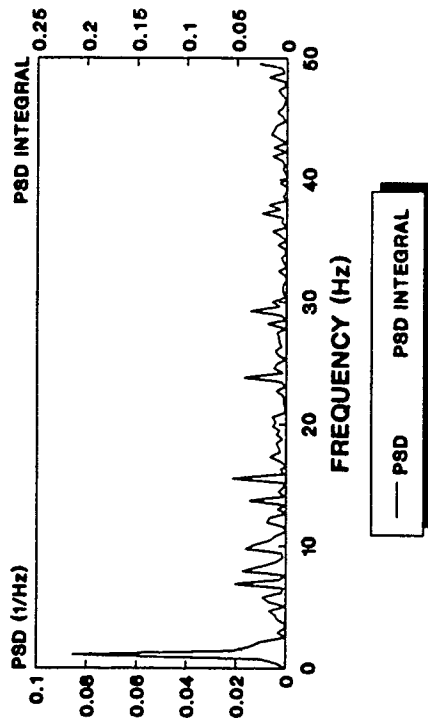
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



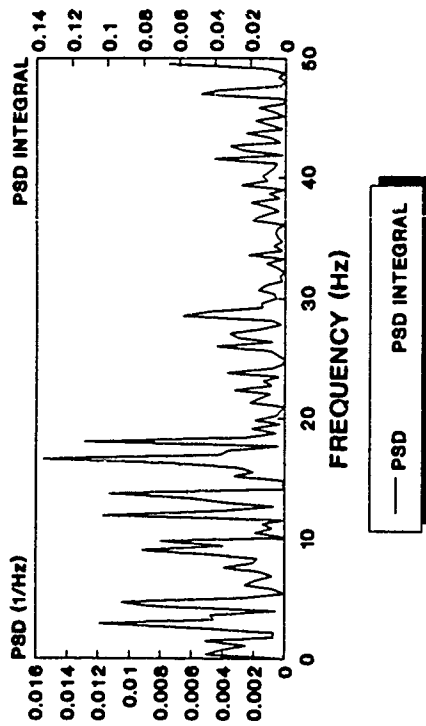
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



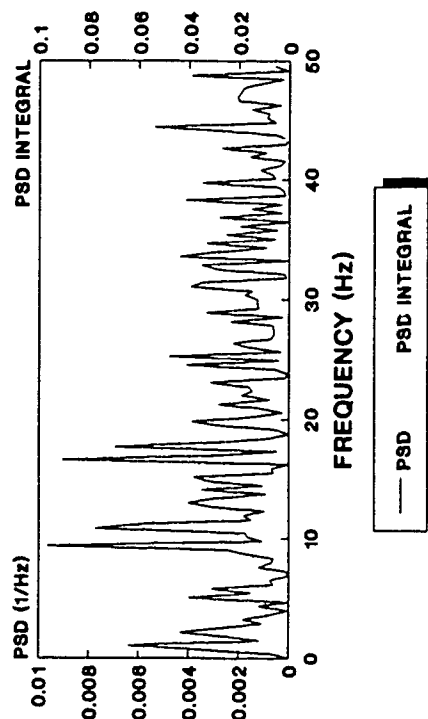
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



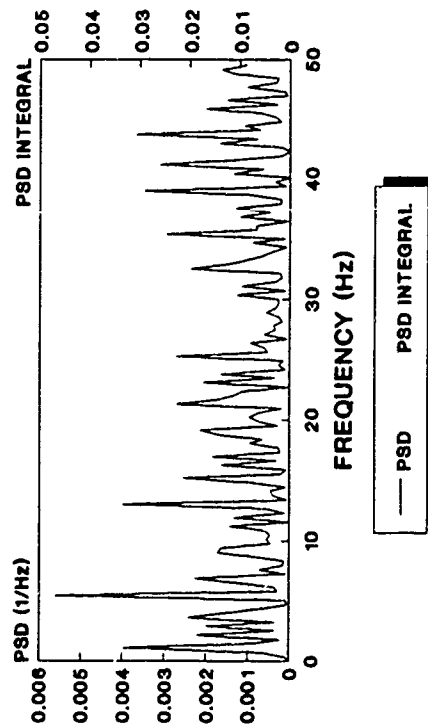
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



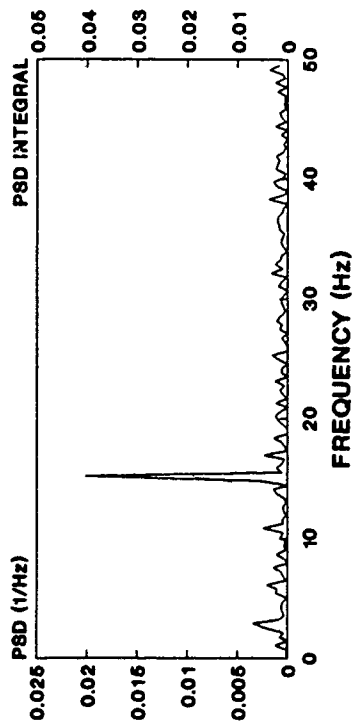
RECTANGLE - THETA 30 - AZIMUTH - 090

MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



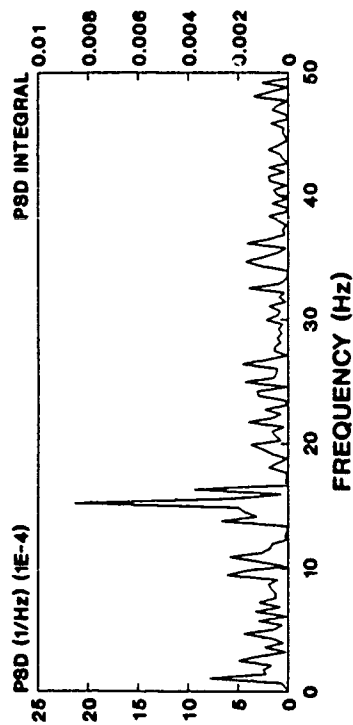
RECTANGLE - THETA 30 - AZIMUTH - 090

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



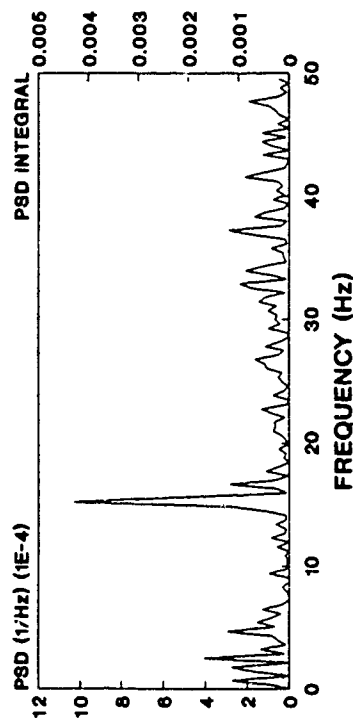
RECTANGLE - THETA 30 - AZIMUTH - 120

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



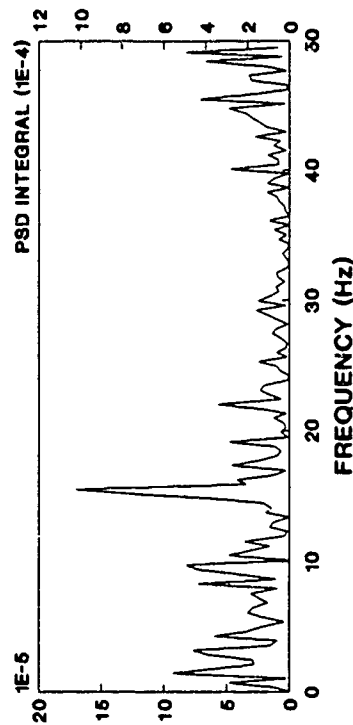
RECTANGLE - THETA 30 - AZIMUTH - 120

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



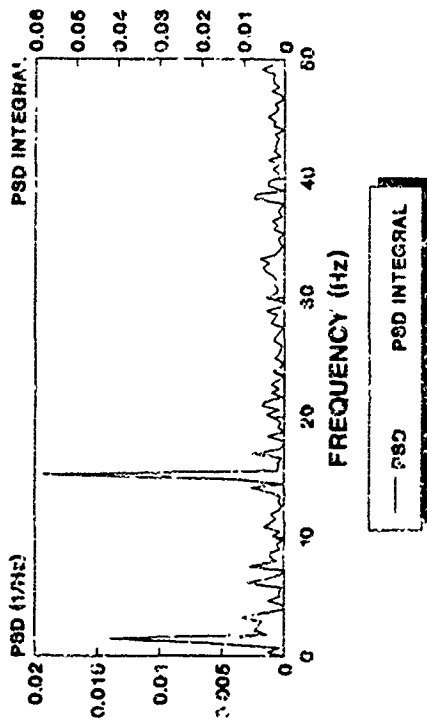
RECTANGLE - THETA 30 - AZIMUTH - 120

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



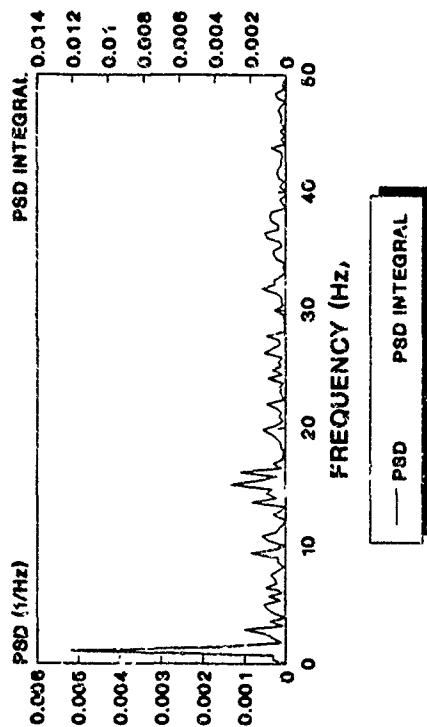
RECTANGLE - THETA 30 - AZIMUTH - 120

MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



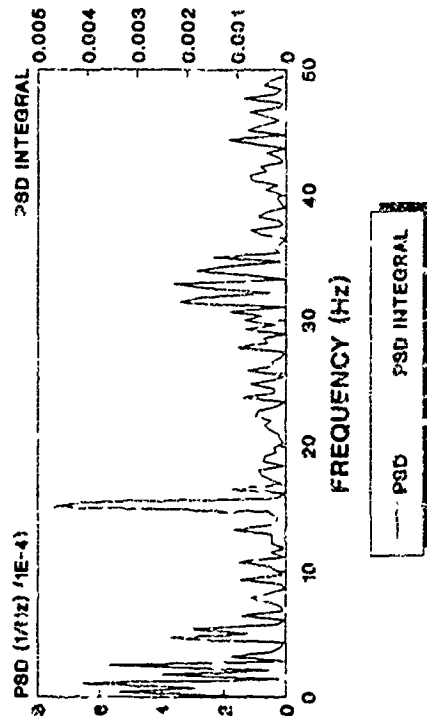
RECTANGLE - THETA 30 - AZIMUTH - 120

MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



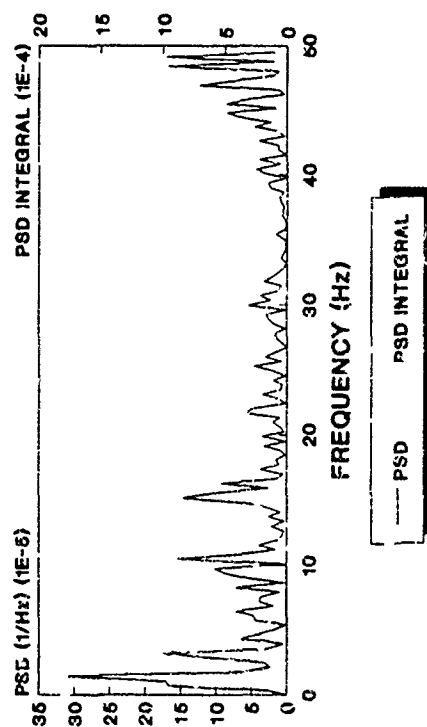
RECTANGLE - THETA 30 - AZIMUTH - 120

MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



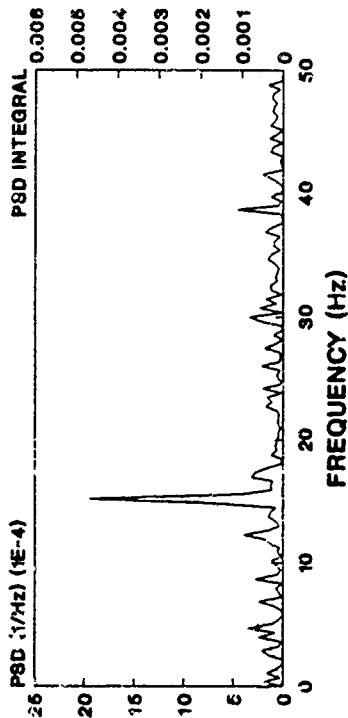
RECTANGLE - THETA 30 - AZIMUTH - 120

MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



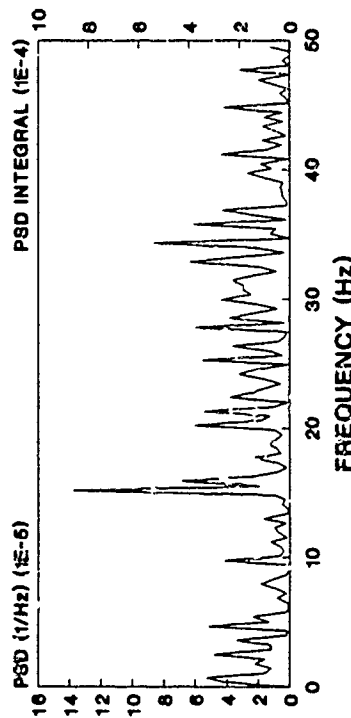
RECTANGLE - THETA 30 - AZIMUTH - 120

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



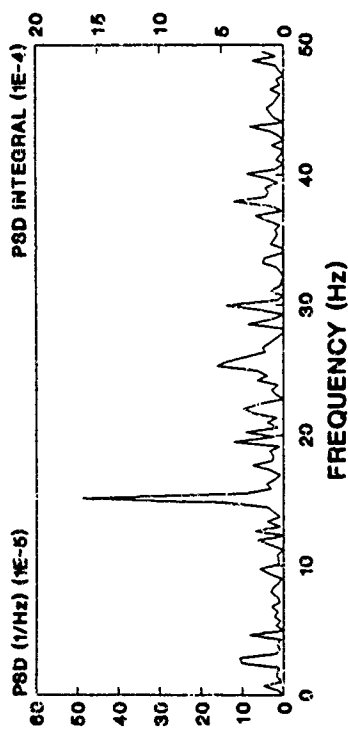
RECTANGLE - THETA 30 - AZIMUTH - 120

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



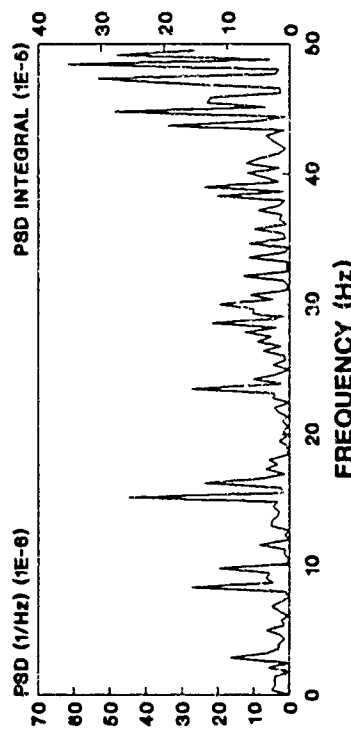
RECTANGLE - THETA 30 - AZIMUTH - 120

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



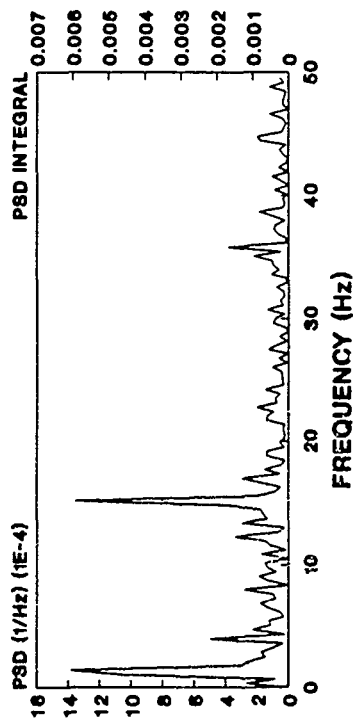
RECTANGLE - THETA 30 - AZIMUTH - 120

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



RECTANGLE - THETA 30 - AZIMUTH - 120

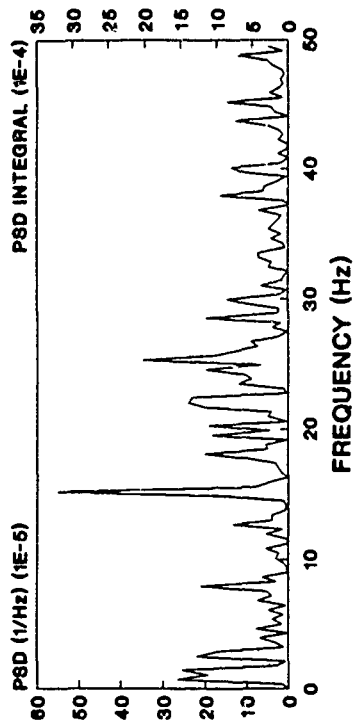
MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 120

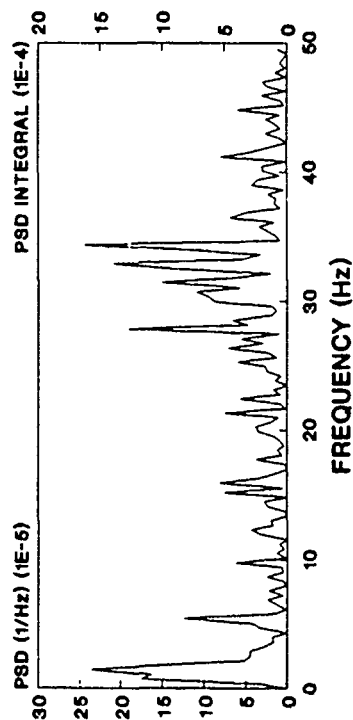
MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 120

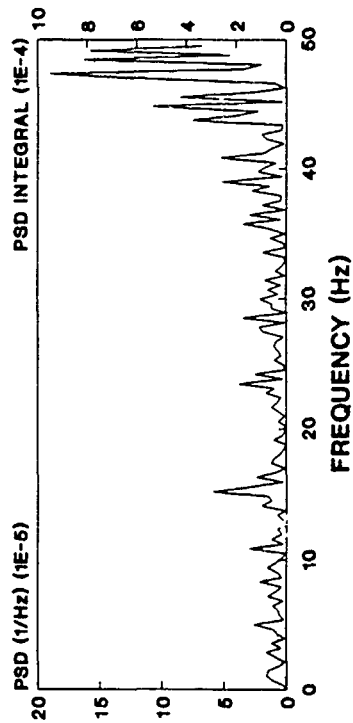
MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 120

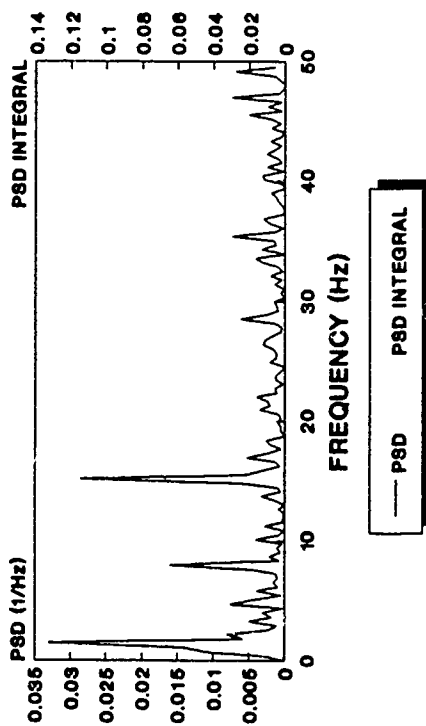
MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



— PSD PSD INTEGRAL

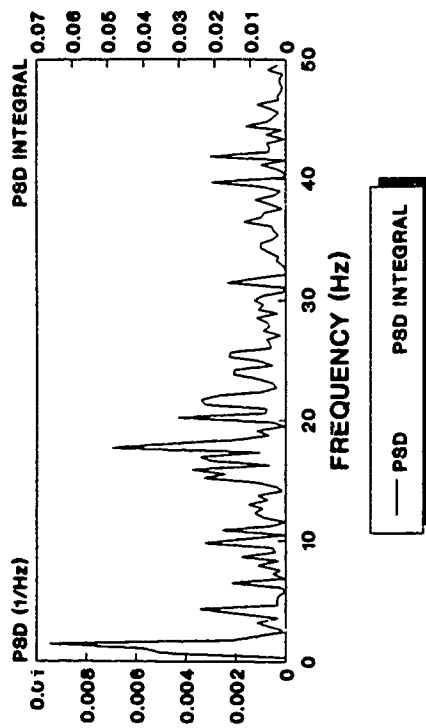
RECTANGLE - THETA 30 - AZIMUTH - 120

MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



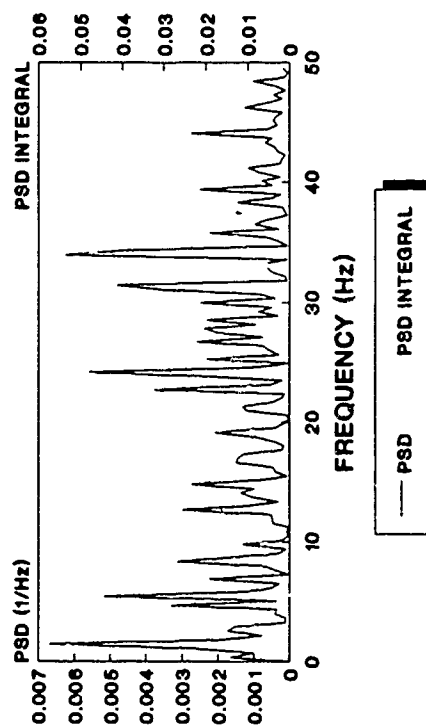
RECTANGLE - THETA 30 - AZIMUTH - 120

MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



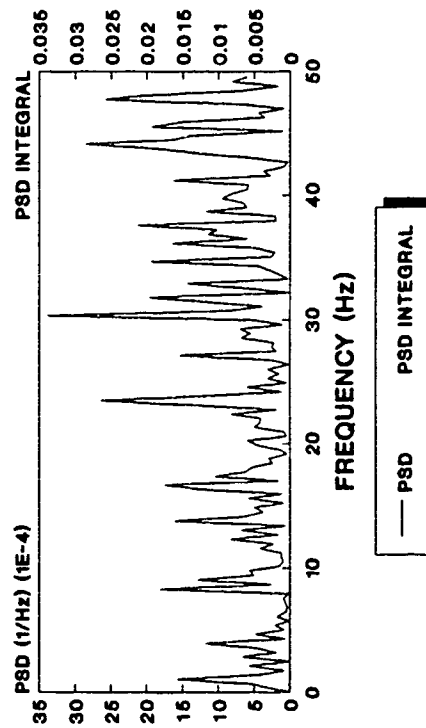
RECTANGLE - THETA 30 - AZIMUTH - 120

MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



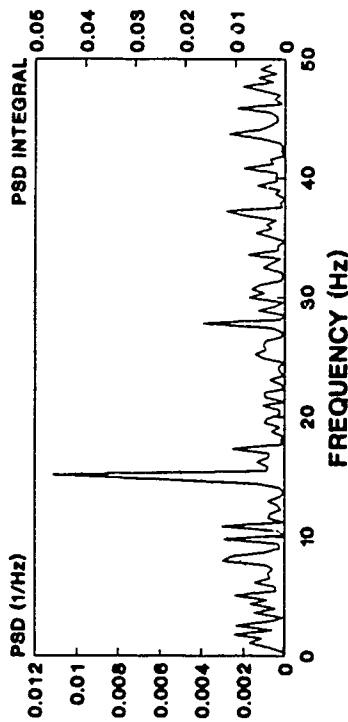
RECTANGLE - THETA 30 - AZIMUTH - 120

MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



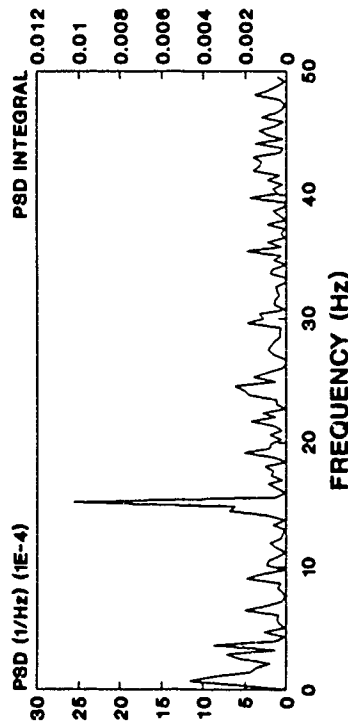
RECTANGLE - THETA 30 - AZIMUTH - 120

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



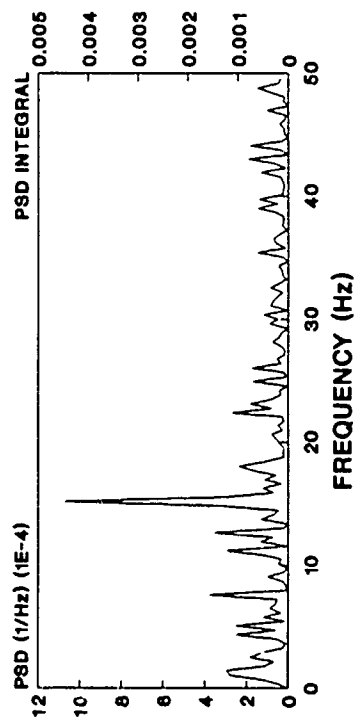
RECTANGLE - THETA 30 - AZIMUTH - 136

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



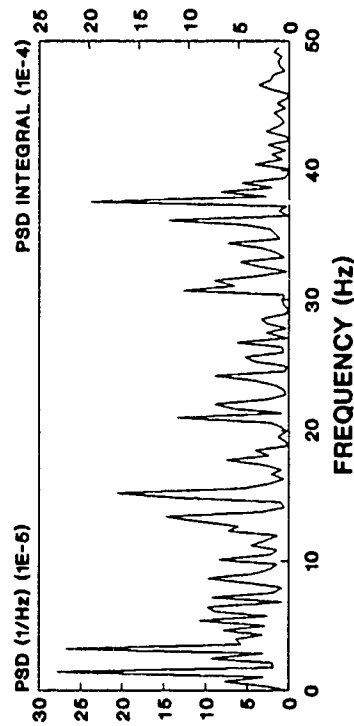
RECTANGLE - THETA 30 - AZIMUTH - 136

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



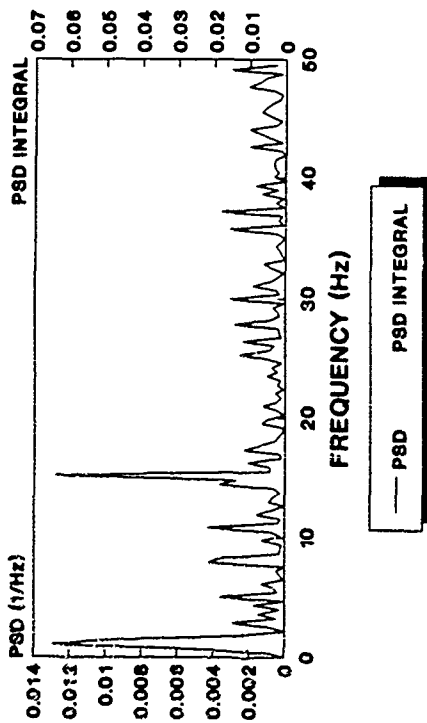
RECTANGLE - THETA 30 - AZIMUTH - 136

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



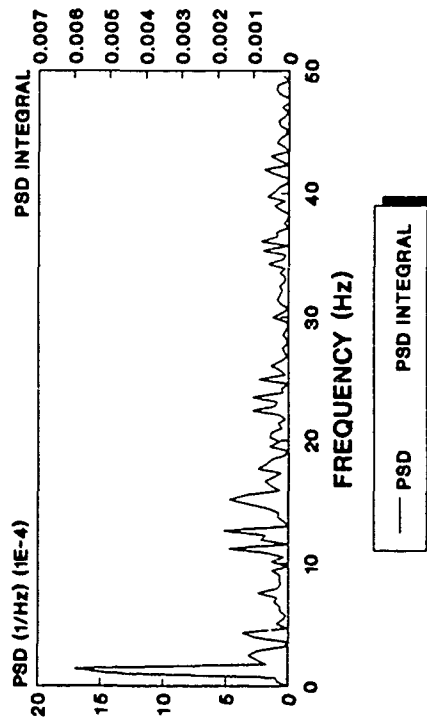
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



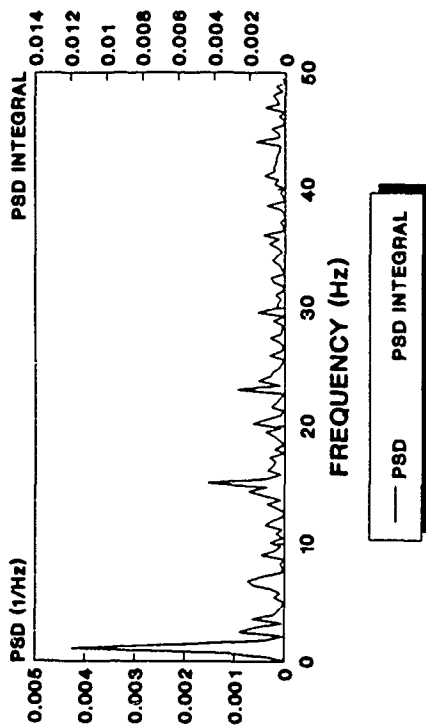
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



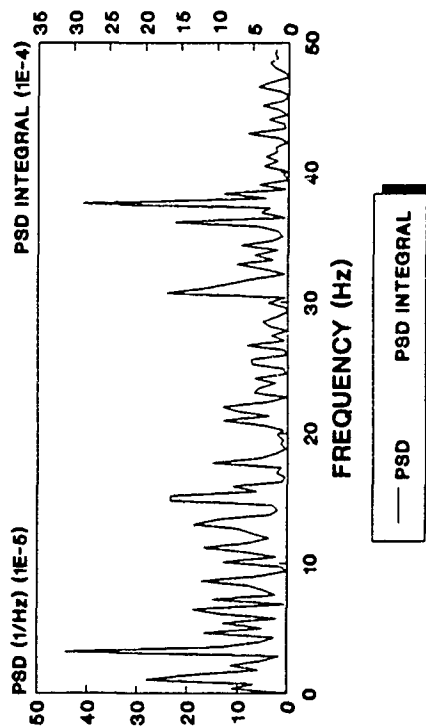
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



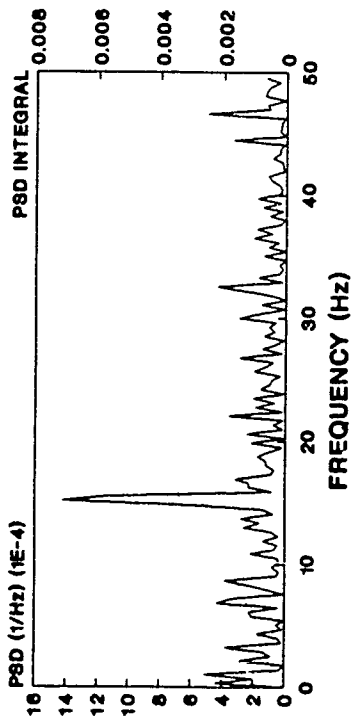
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



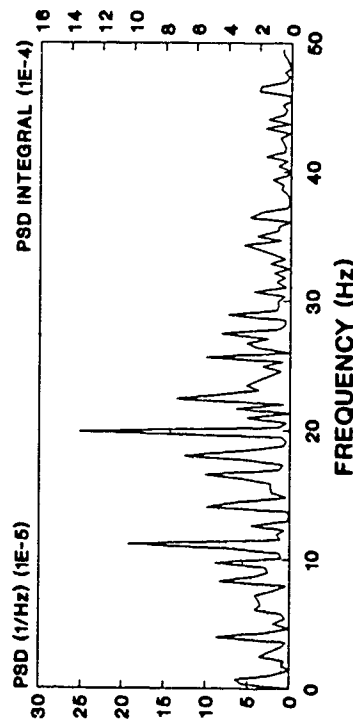
RECTANGLE - THETA 30 - AZIMUTH - 136

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



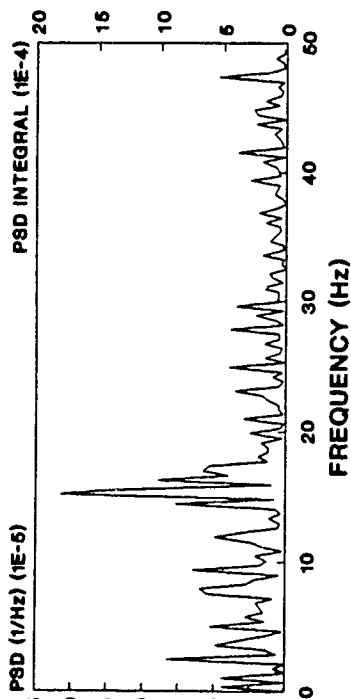
RECTANGLE - THETA 30 - AZIMUTH - 136

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



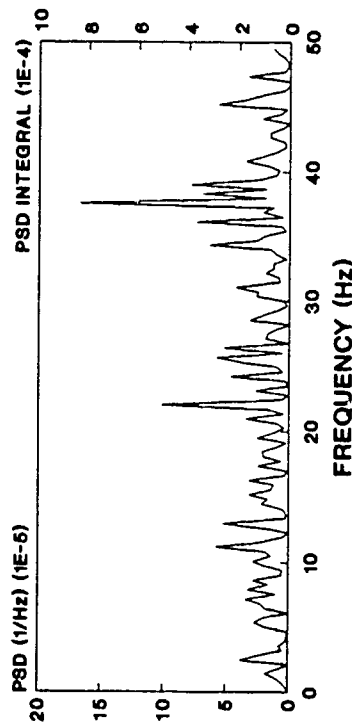
RECTANGLE - THETA 30 - AZIMUTH - 136

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



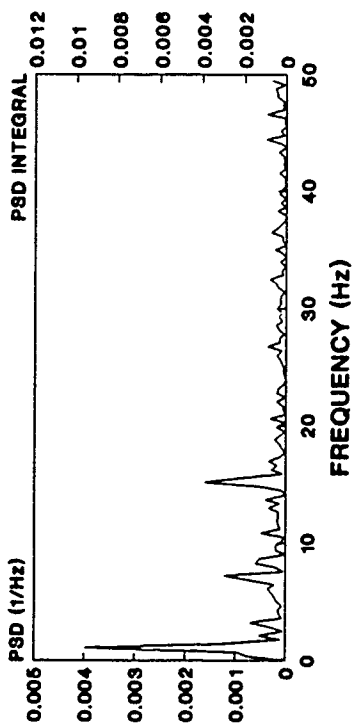
RECTANGLE - THETA 30 - AZIMUTH - 136

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



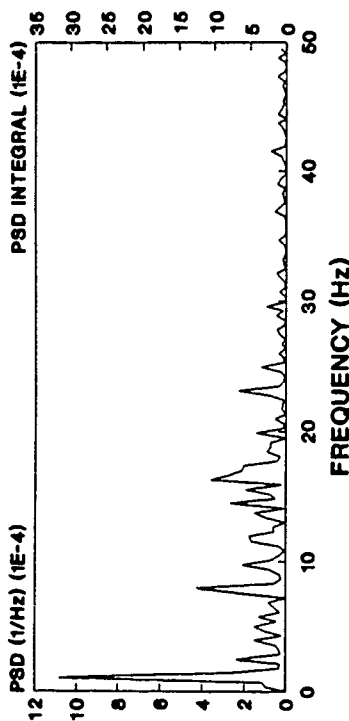
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



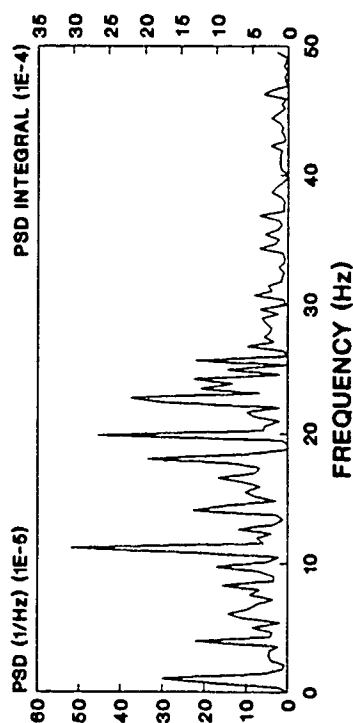
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



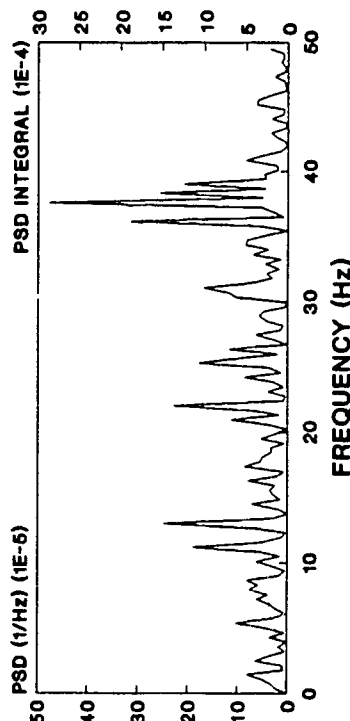
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



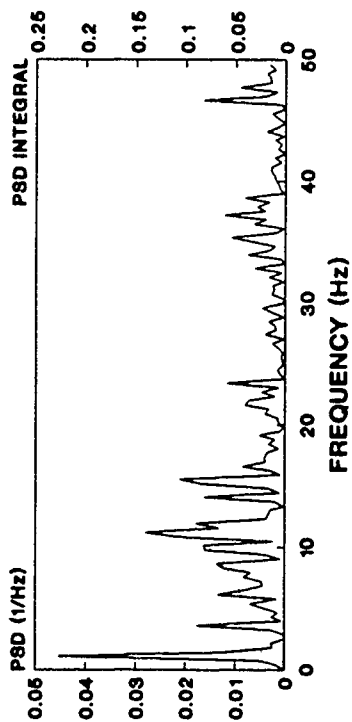
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



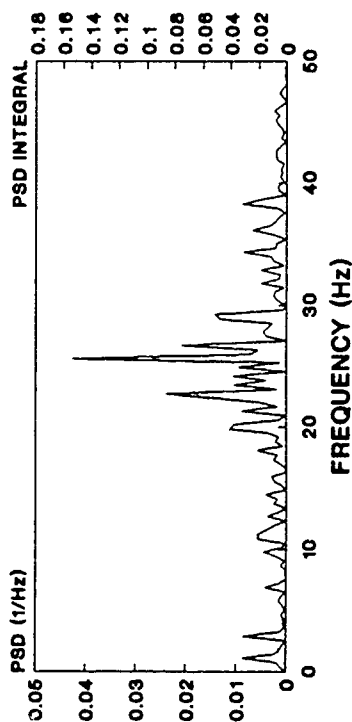
RECTANGLE - THETA 30 - AZIMUTH - 136

MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



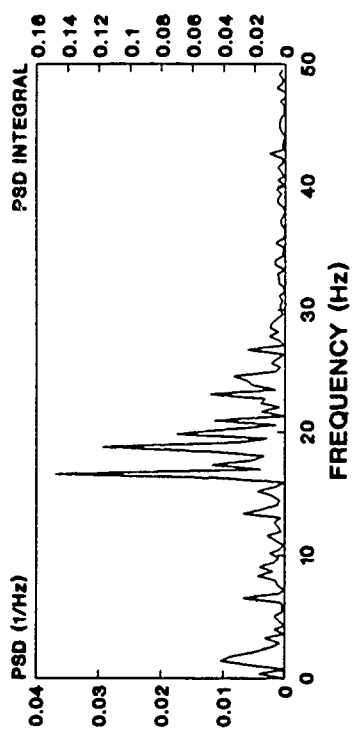
RECTANGLE - THETA 30 - AZIMUTH - 135

MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



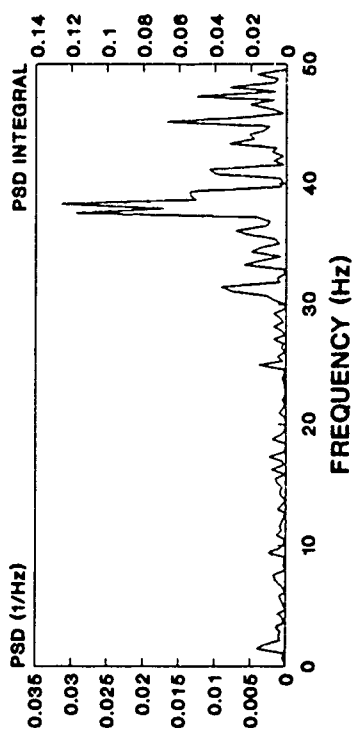
RECTANGLE - THETA 30 - AZIMUTH - 135

MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



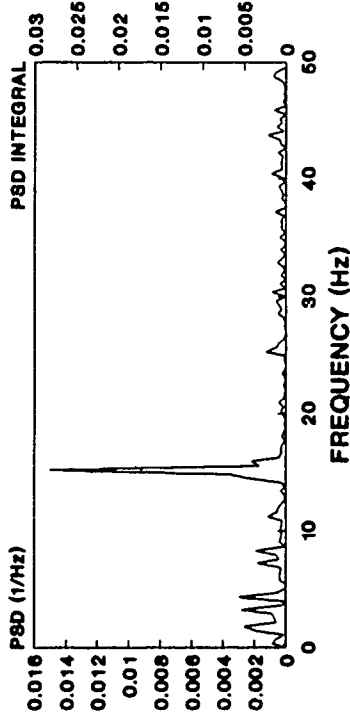
RECTANGLE - THETA 30 - AZIMUTH - 135

MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



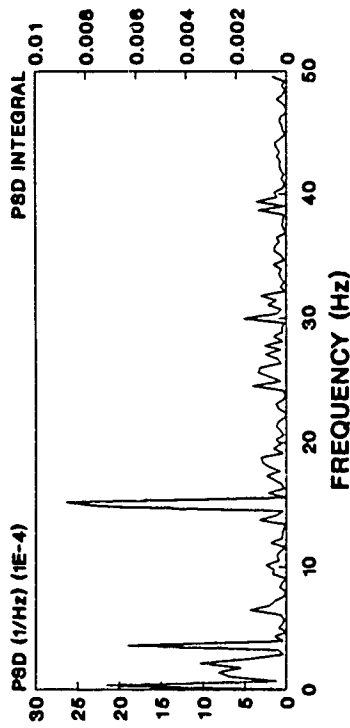
RECTANGLE - THETA 30 - AZIMUTH - 135

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



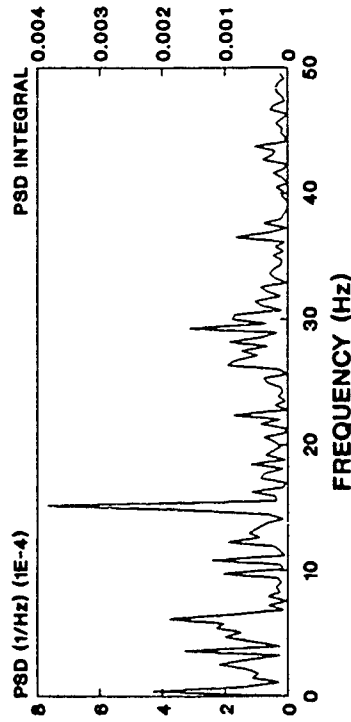
RECTANGLE - THETA 30 - AZIMUTH - 160

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



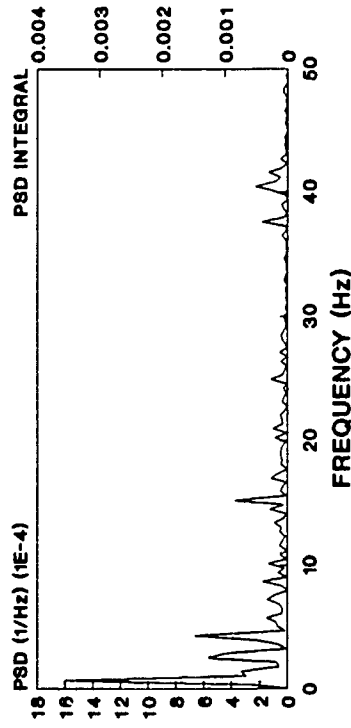
RECTANGLE - THETA 30 - AZIMUTH - 160

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



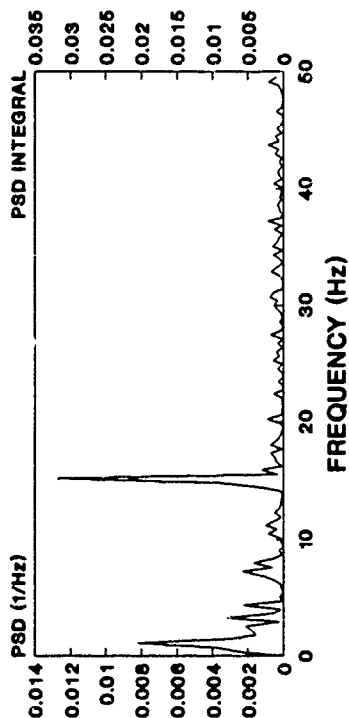
RECTANGLE - THETA 30 - AZIMUTH - 160

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



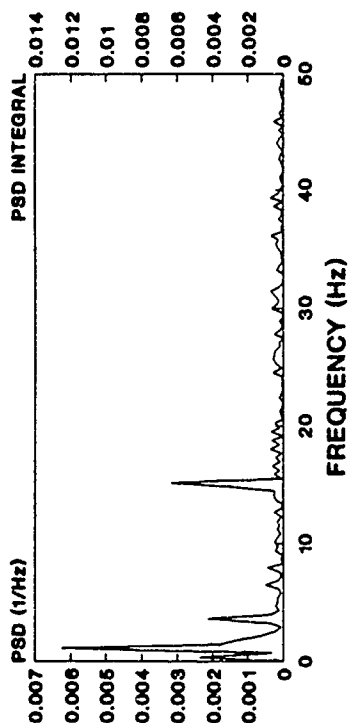
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



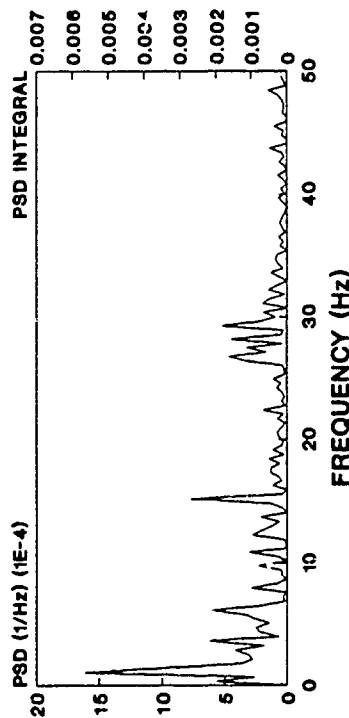
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



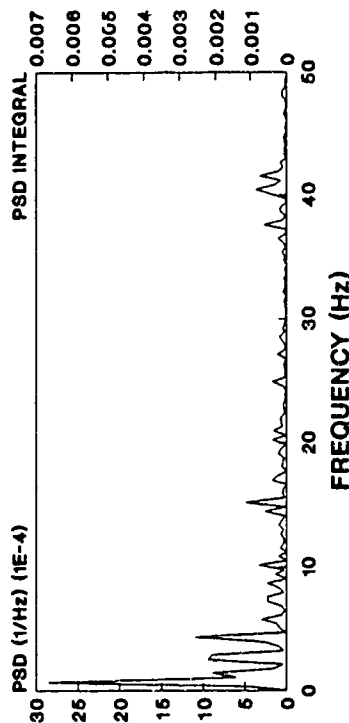
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



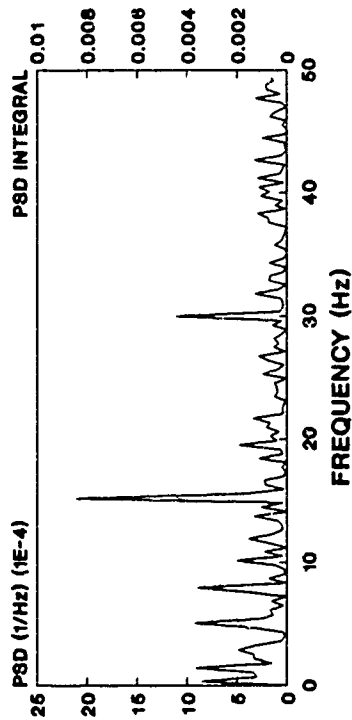
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



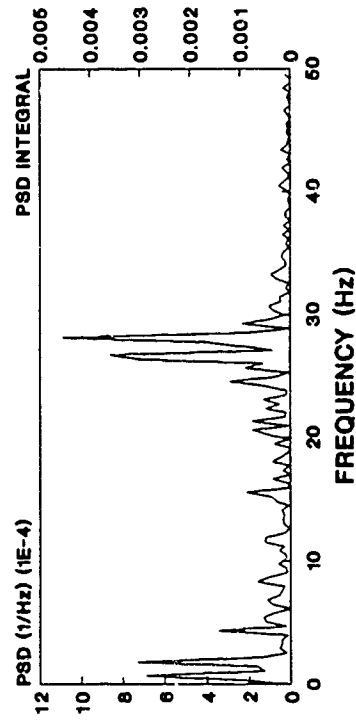
RECTANGLE - THETA 30 - AZIMUTH - 160

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



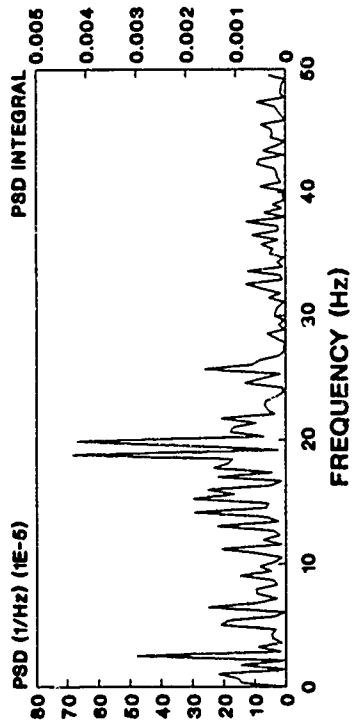
RECTANGLE - THETA 30 - AZIMUTH - 160

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



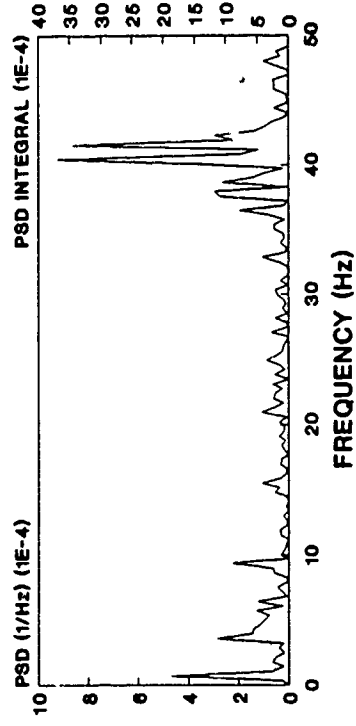
RECTANGLE - THETA 30 - AZIMUTH - 160

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



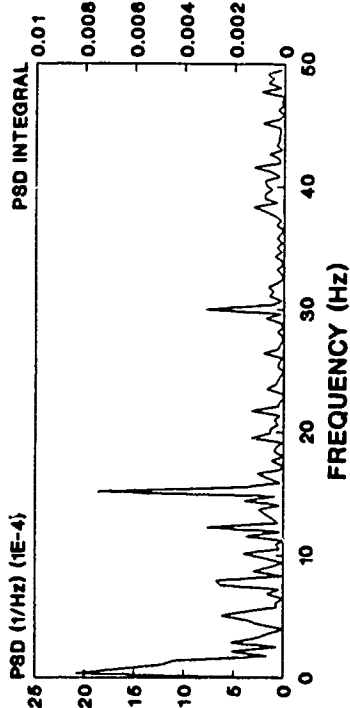
RECTANGLE - THETA 30 - AZIMUTH - 160

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



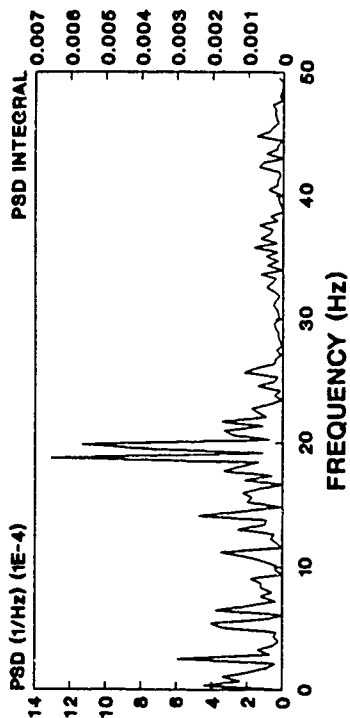
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - LATERAL **60 FT/SEC NOMINAL**



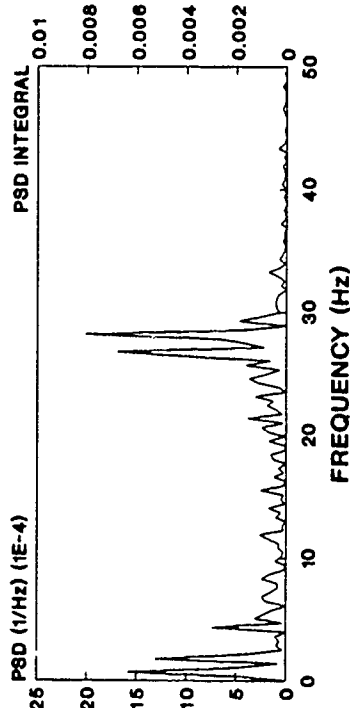
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - LATERAL **90 FT/SEC NOMINAL**



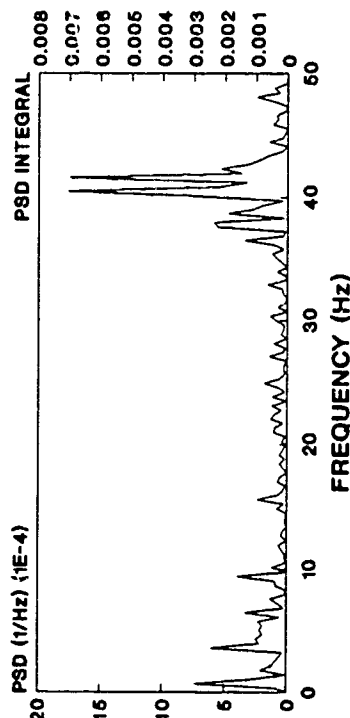
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - LATERAL **120 FT/SEC NOMINAL**



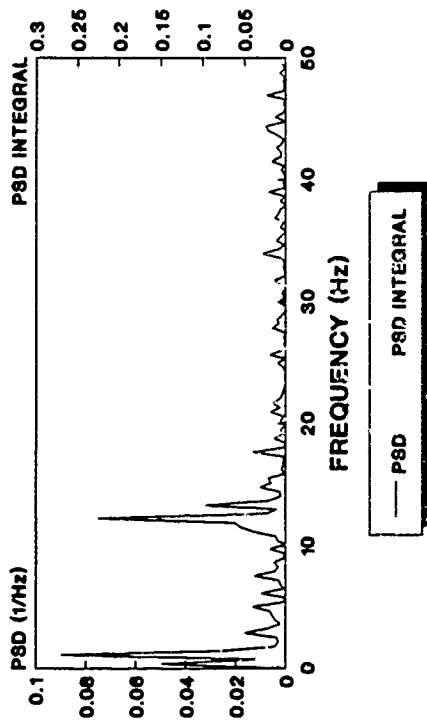
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - LATERAL **180 FT/SEC NOMINAL**



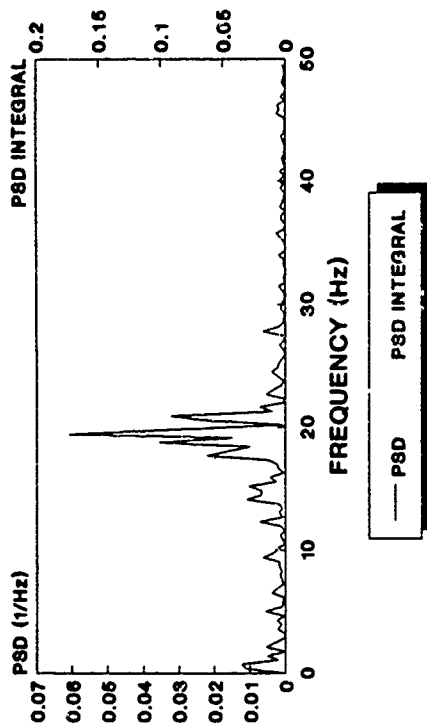
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



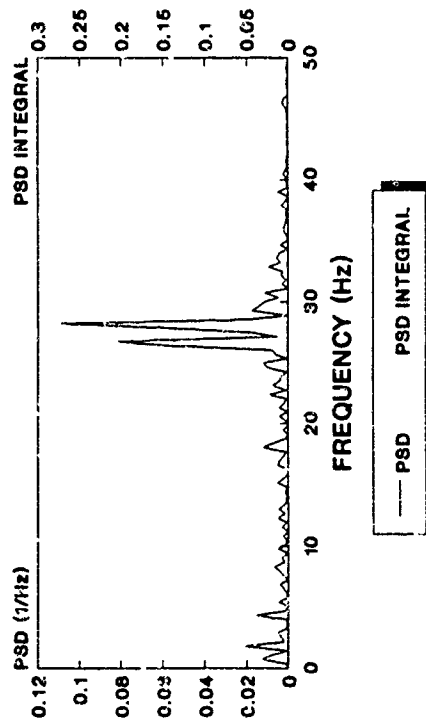
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



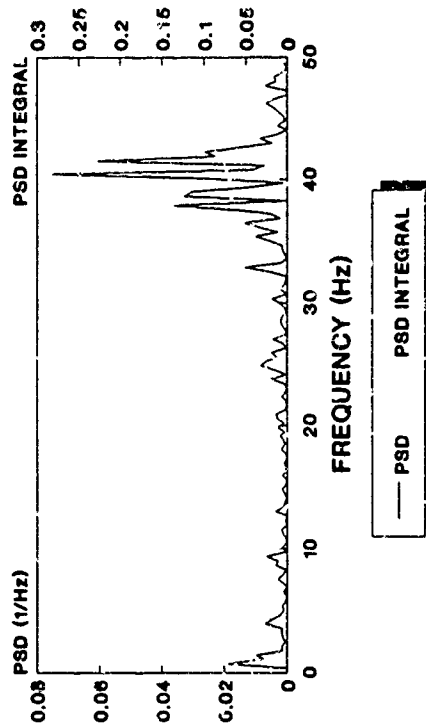
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



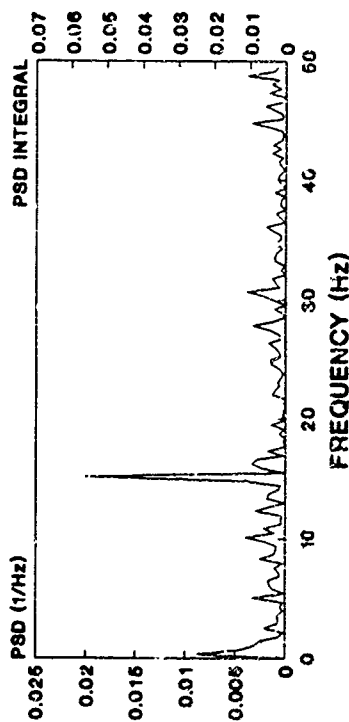
RECTANGLE - THETA 30 - AZIMUTH - 160

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



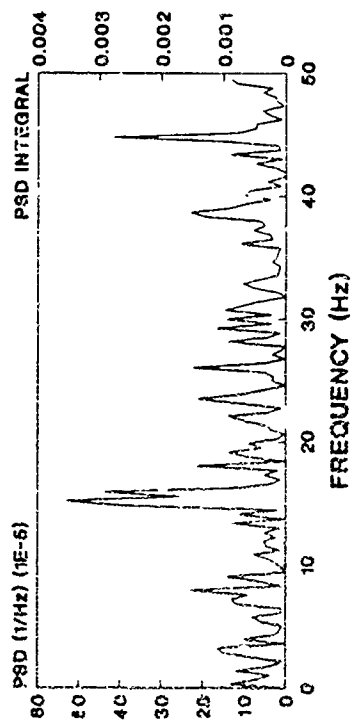
RECTANGLE - THETA 30 - AZIMUTH - 160

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



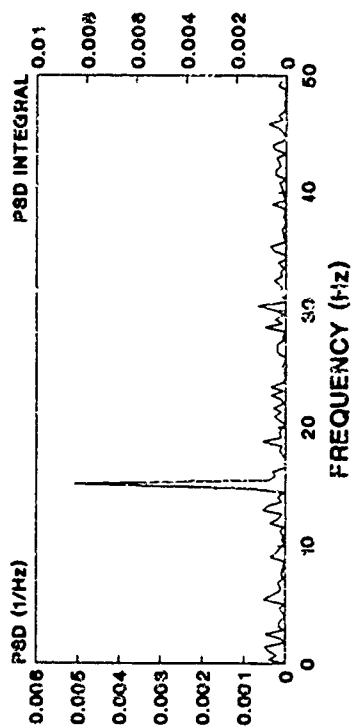
RECTANGLE - THETA 30 - AZIMUTH - 180

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



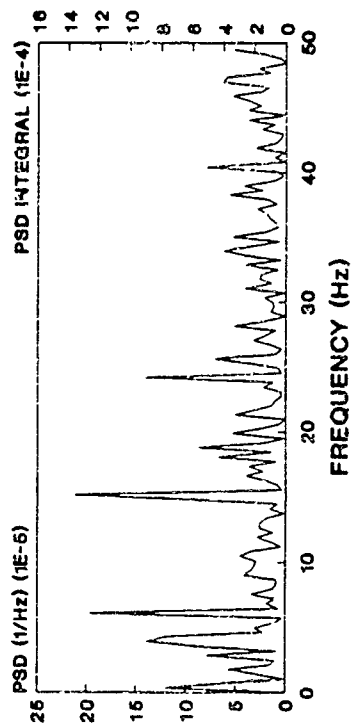
RECTANGLE - THETA 30 - AZIMUTH - 180

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



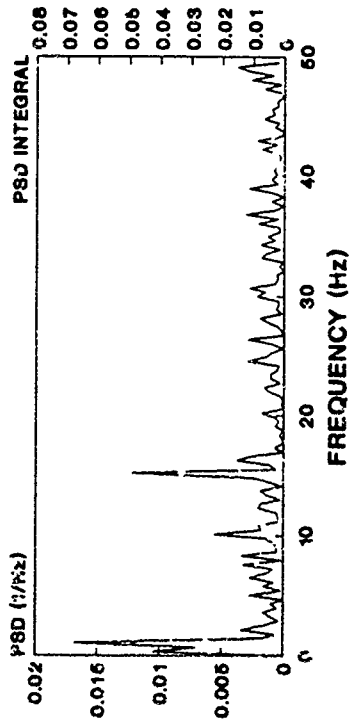
RECTANGLE - THETA 30 - AZIMUTH - 180

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



RECTANGLE - THETA 30 - AZIMUTH - 180

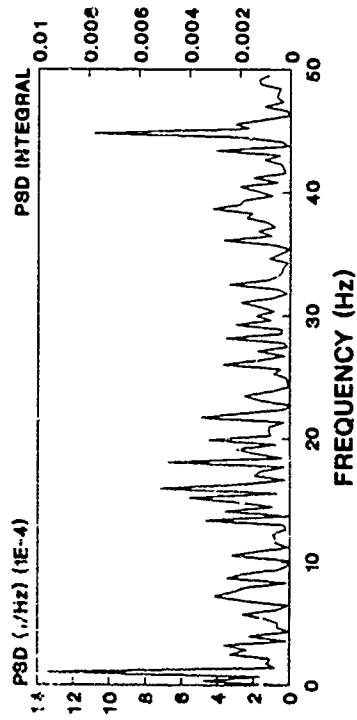
MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



--- PSD
— PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 180

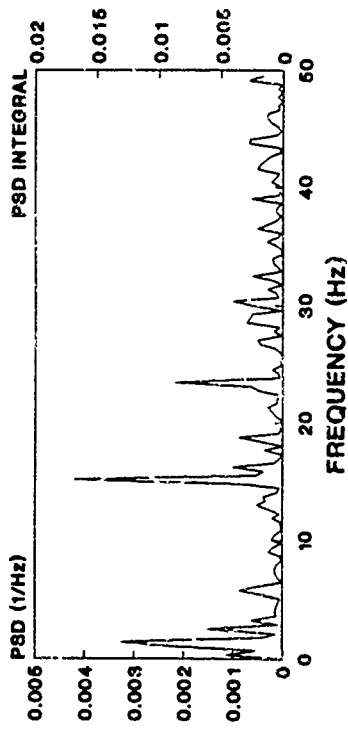
MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



--- PSD
— PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 180

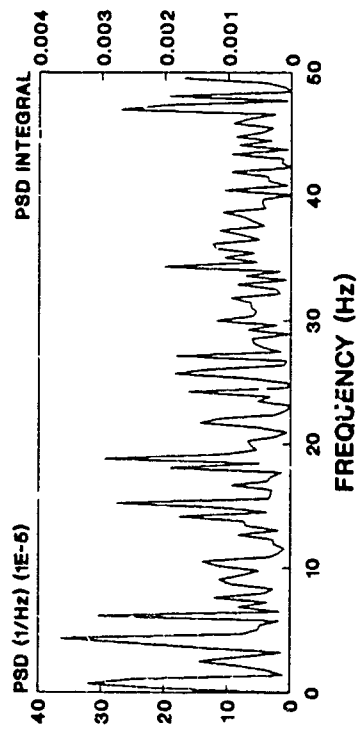
MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



--- PSD
— PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 180

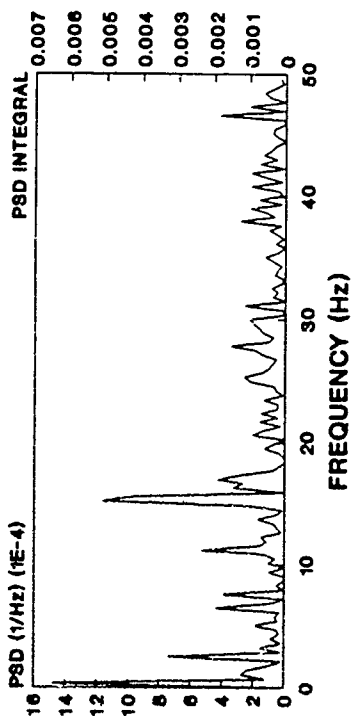
MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



--- PSD
— PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 180

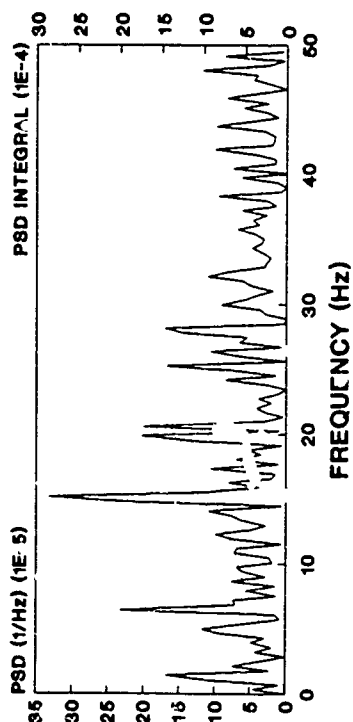
FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 180

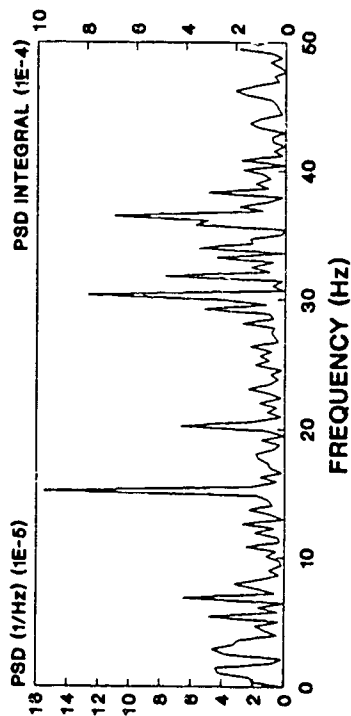
FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 180

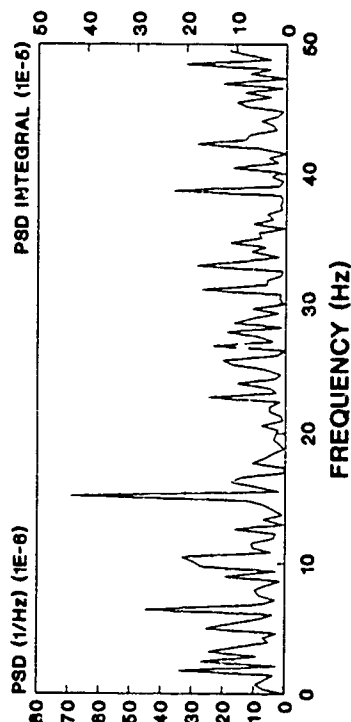
FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



PSD PSD INTEGRAL

RECTANGLE - THETA 30 - AZIMUTH - 180

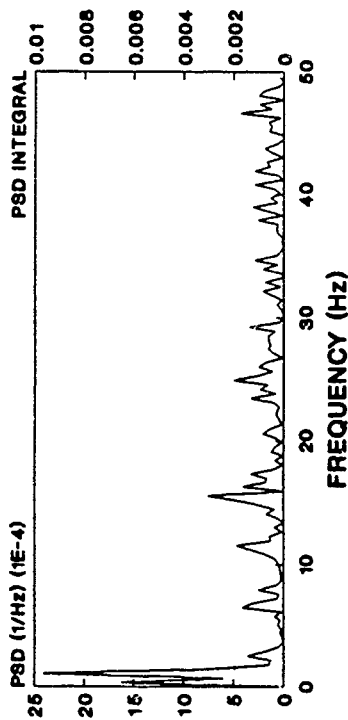
FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



PSD PSD INTEGRAL

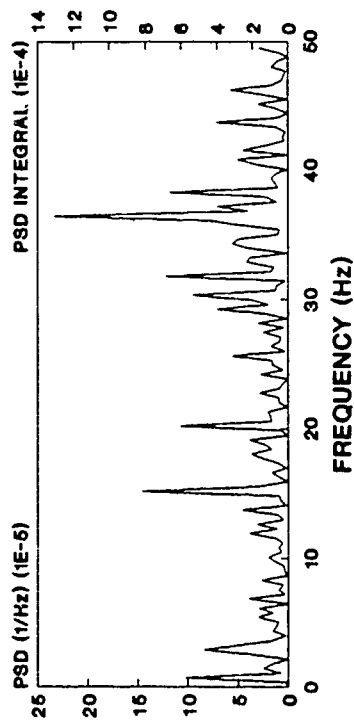
RECTANGLE - THETA 30 - AZIMUTH - 180

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



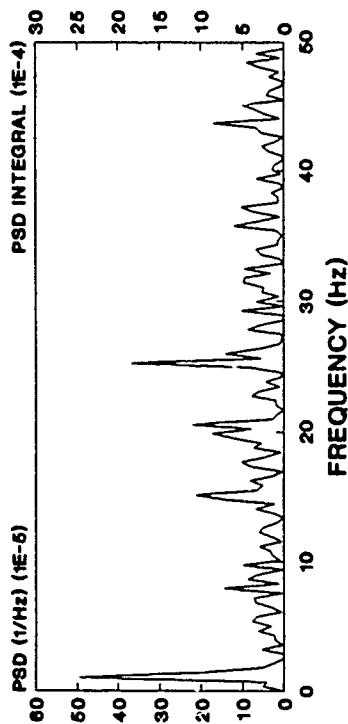
RECTANGLE - THETA 30 - AZIMUTH - 180

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



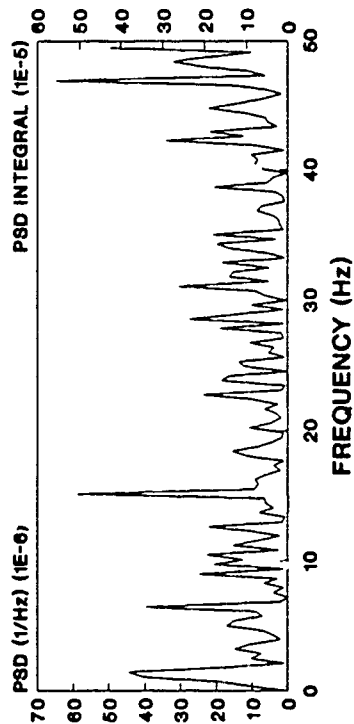
RECTANGLE - THETA 30 - AZIMUTH - 180

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



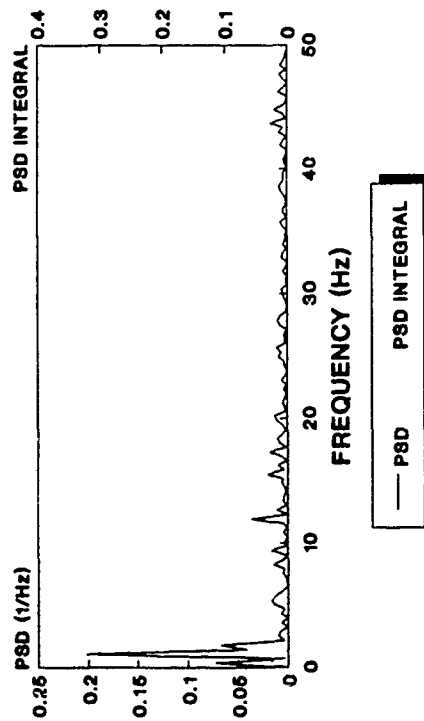
RECTANGLE - THETA 30 - AZIMUTH - 180

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



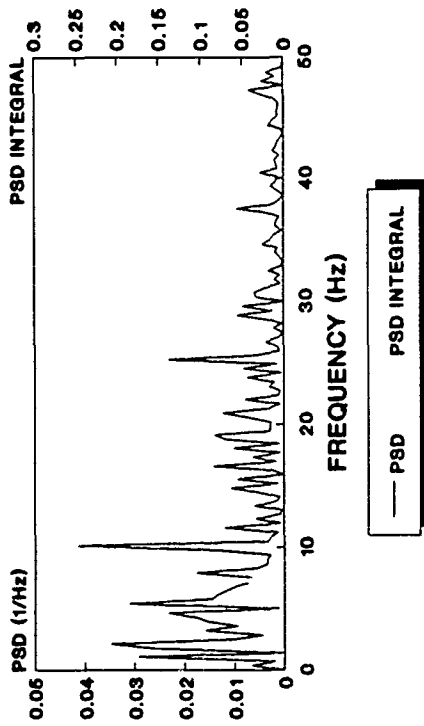
RECTANGLE - THETA 30 - AZIMUTH - 180

MOMENT COEFF - ROLL **60 FT/SEC NOMINAL**



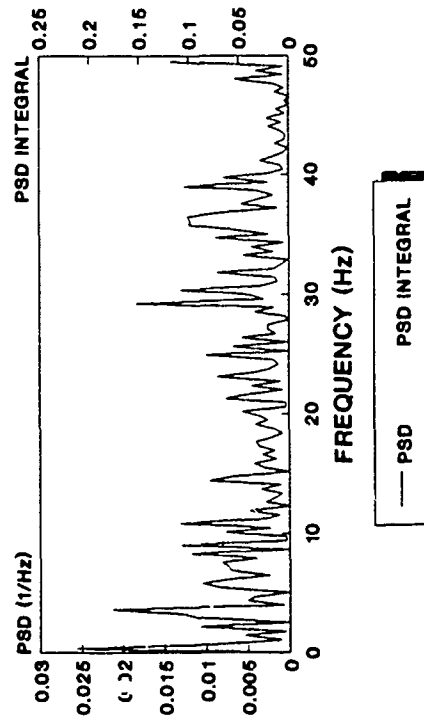
RECTANGLE - THETA 30 - AZIMUTH - 180

MOMENT COEFF - ROLL **90 FT/SEC NOMINAL**



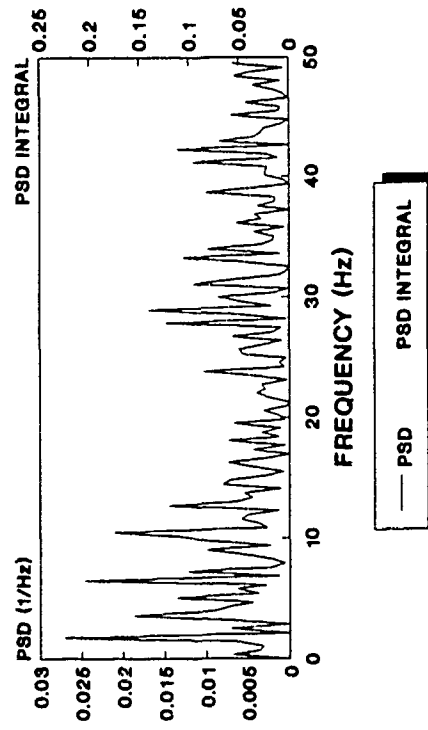
RECTANGLE - THETA 30 - AZIMUTH - 180

MOMENT COEFF - ROLL **120 FT/SEC NOMINAL**



RECTANGLE - THETA 30 - AZIMUTH - 180

MOMENT COEFF - ROLL **180 FT/SEC NOMINAL**



RECTANGLE - THETA 30 - AZIMUTH - 180

DATA REPORT

SHAPE:	RECTANGLE
DECLINATION [THETA (degrees)]:	45
DIMENSIONS [LxWxH (in)]:	11.4 x 3.92 x 8.5
WEIGHT (gm):	695.0
TORSION FREQUENCY (Hz):	44
LATERAL (SIDE BEND) FREQUENCY (Hz):	79
NORMAL (AFT BEND) FREQUENCY (Hz):	121
AZIMUTHS (degrees):	0, 30, 45, 60, 90, 120, 135, 150, 180

GRAPH CORRECTIONS:

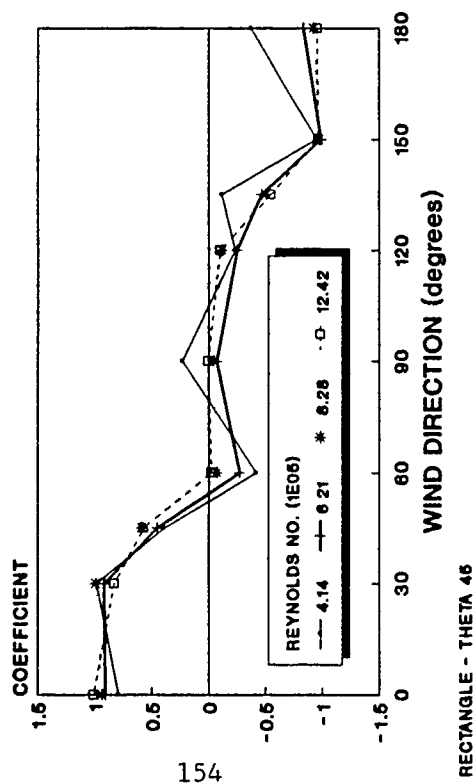
- The mean value of the **ROLL** moment coefficients should be divided by 12.
- The PSD and PSD Integral values of the **ROLL** moment coefficients should be divided by 144.

OBSERVATIONS:

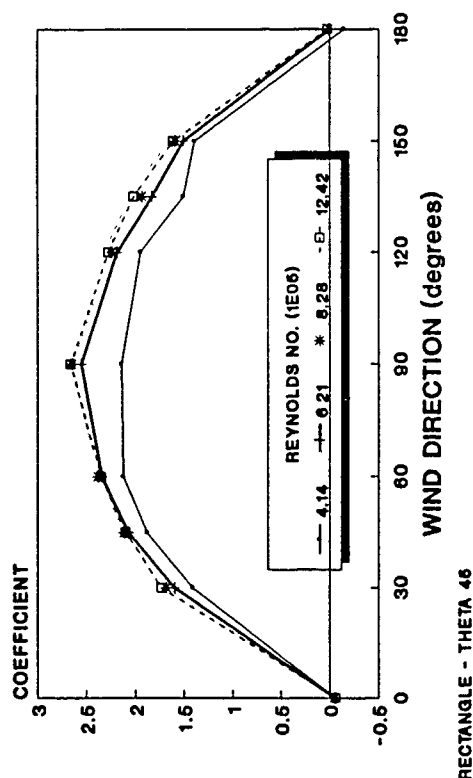
- Very good shedding is seen in the normal data at 90 degrees azimuth. The shed tends to be nearly single frequency in nature.
- Very good shedding is seen in the lateral moment and roll data at 120 degrees azimuth. The lateral and roll data can be used to identify shedding in the normal data as well.
- Good shedding can be seen in the lateral data at 30, 45, and 60 degrees azimuth. The lateral data clearly shows the torsional frequency.

- Good/Poor shedding can be seen in the data at 120 degrees azimuth. The shedding can be traced throughout the wind speed sequence but is noisy at 60 and 90 ft/sec.

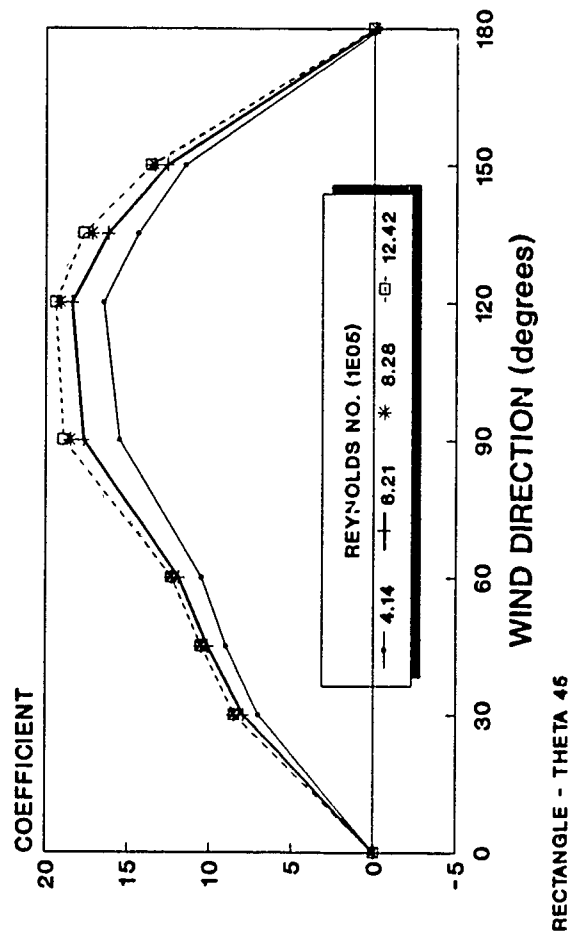
MEAN FORCE COEFFICIENT NORMAL DIRECTION



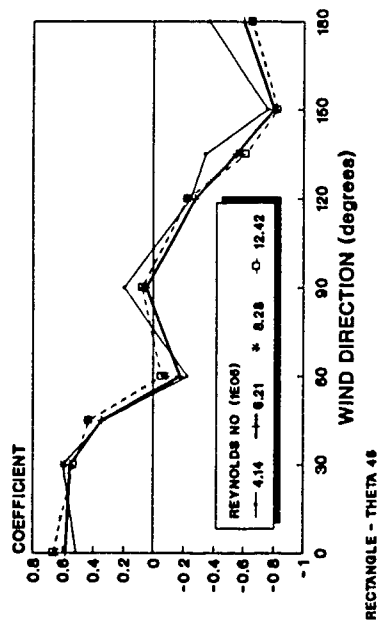
MEAN FORCE COEFFICIENT LATERAL DIRECTION



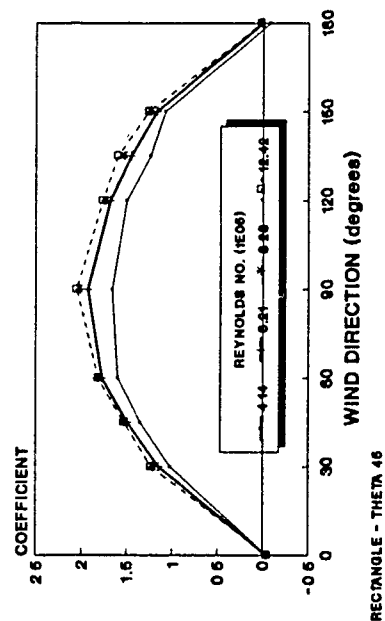
MEAN MOMENT COEFFICIENT ROLL DIRECTION



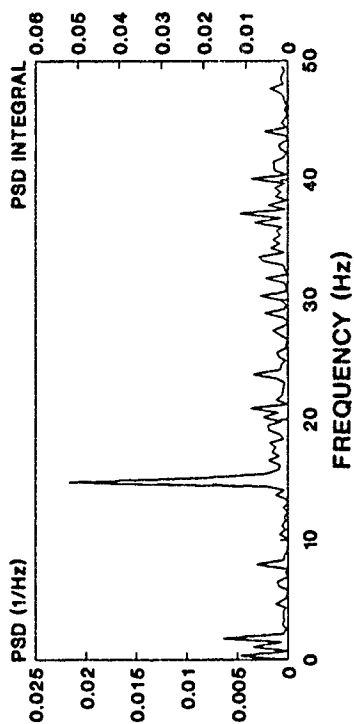
MEAN MOMENT COEFFICIENT NORMAL DIRECTION



MEAN MOMENT COEFFICIENT LATERAL DIRECTION

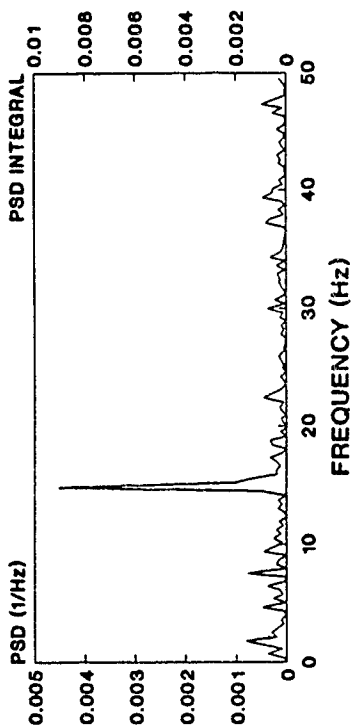


FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



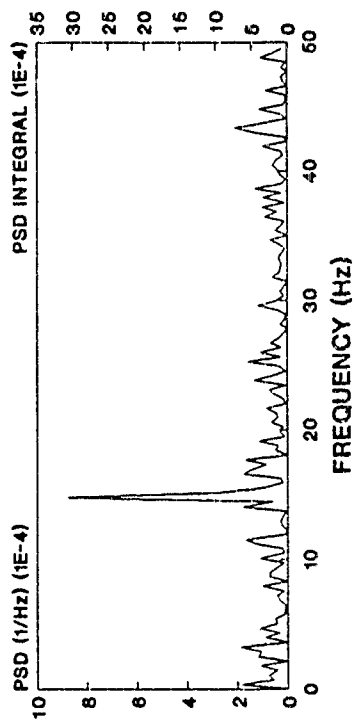
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



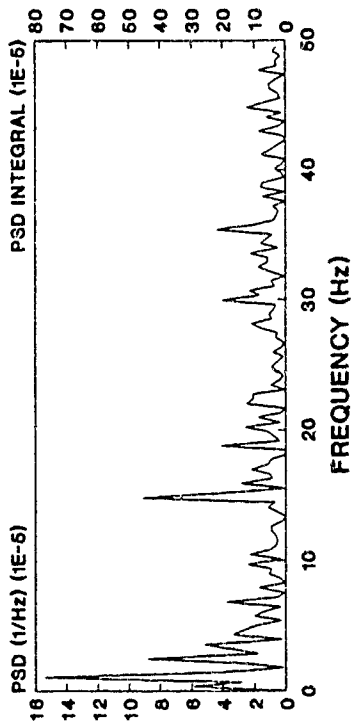
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



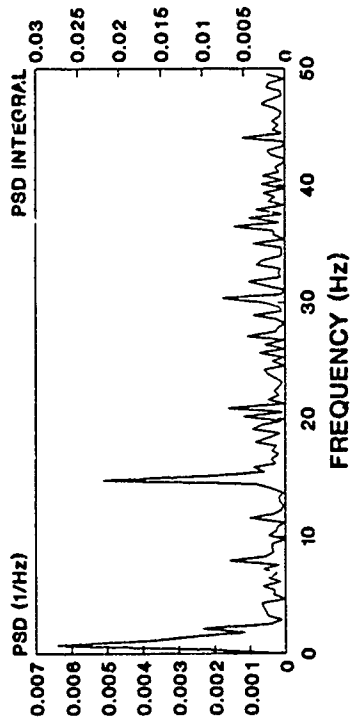
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.6 - THETA 45 - AZ 000

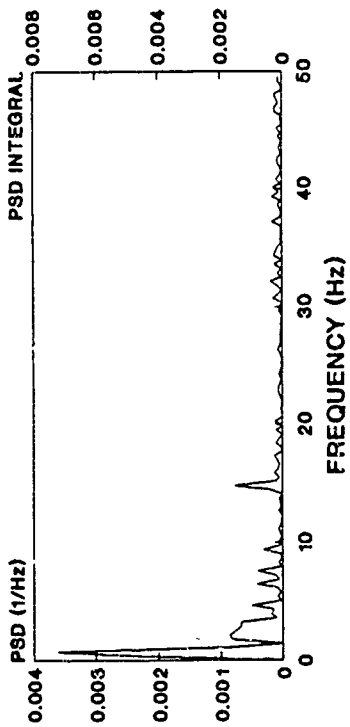
MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



— PSD
- - - PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 000

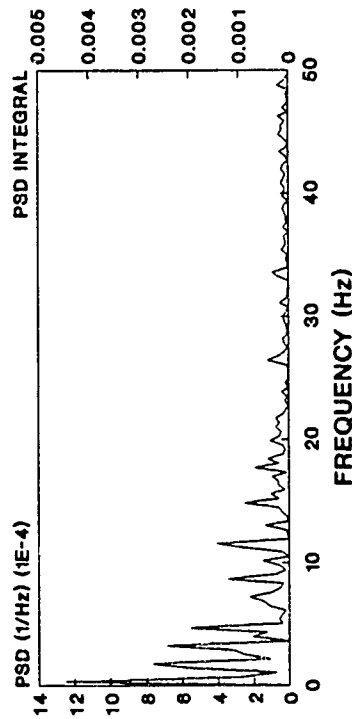
MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



— PSD
- - - PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 000

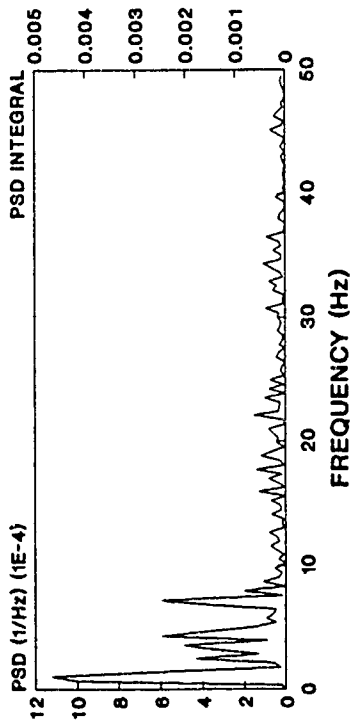
MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



— PSD
- - - PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 000

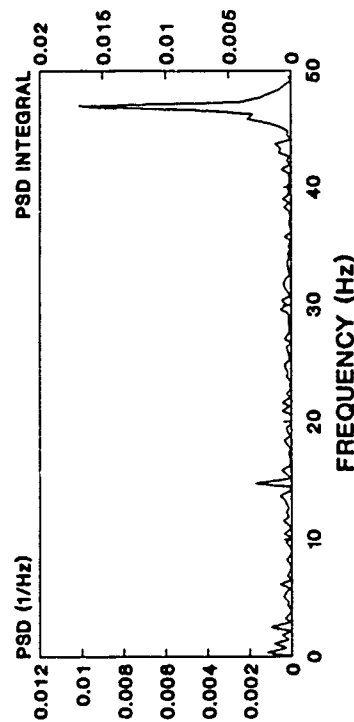
MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



— PSD
- - - PSD INTEGRAL

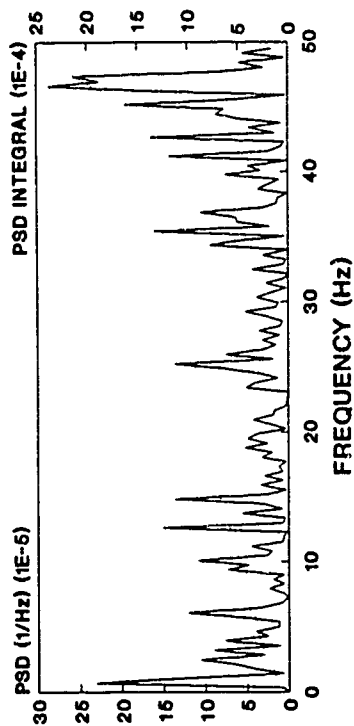
RECTANGLE - HT 8.5 - THETA 45 - AZ 000

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



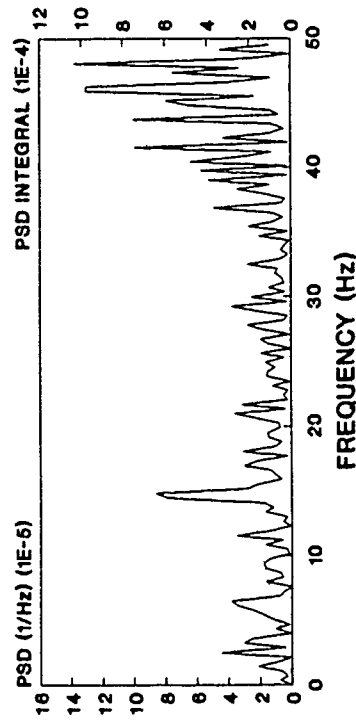
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



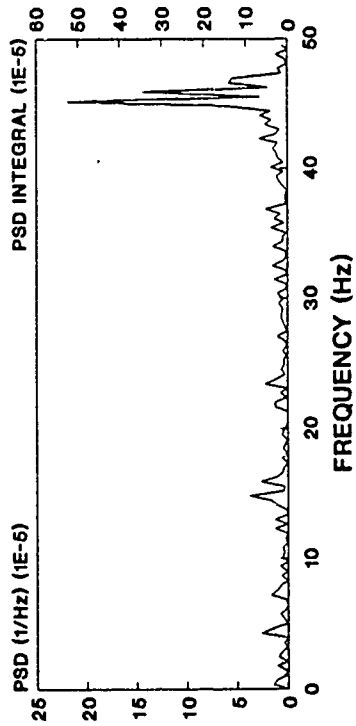
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



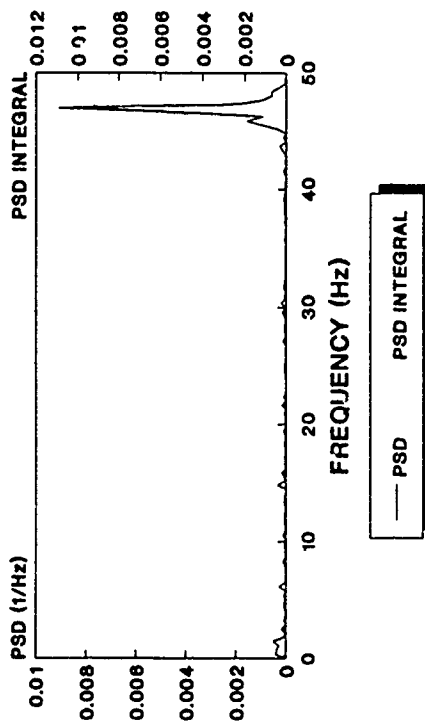
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



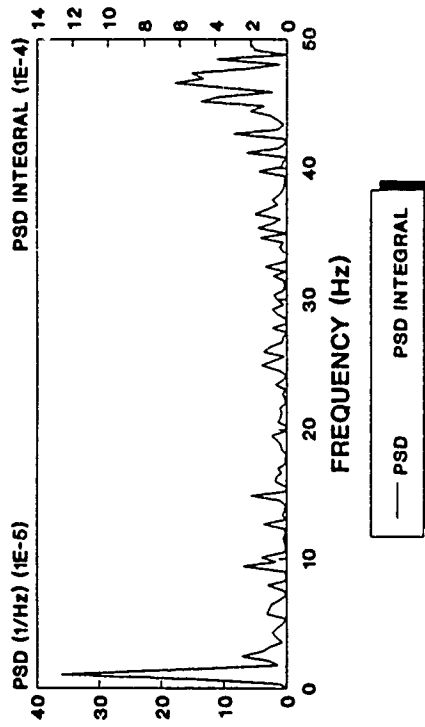
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



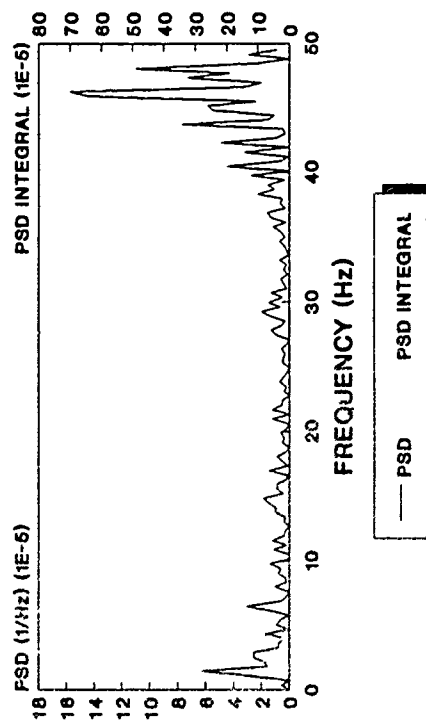
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



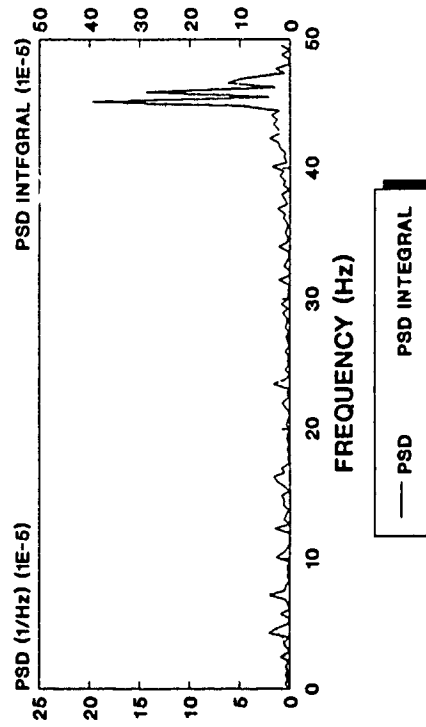
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



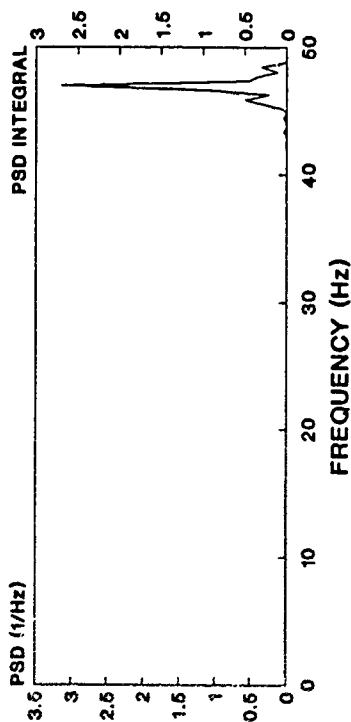
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



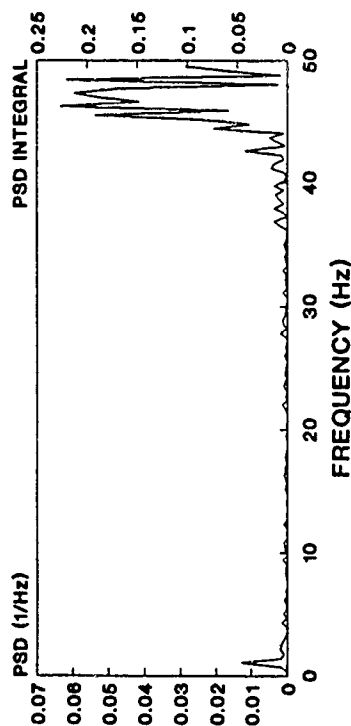
RECTANGLE - HT 8.6 - THETA 45 - AZ 000

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



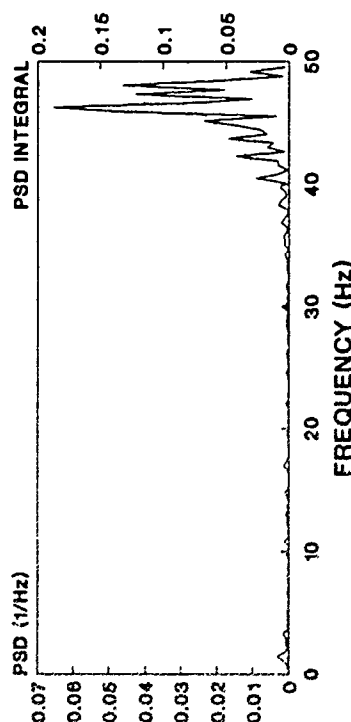
RECTANGLE - HT 8.5 - THETA 45 - AZ 000

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



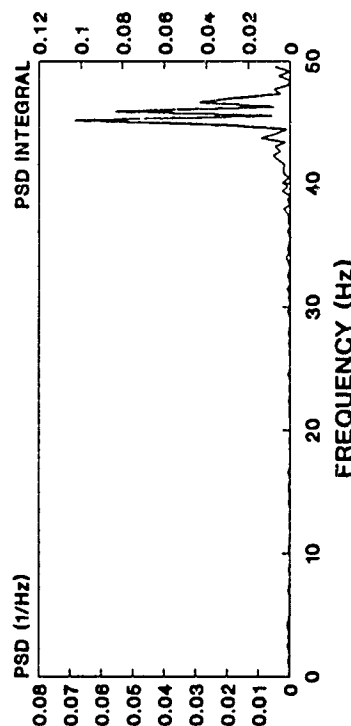
RECTANGLE - HT 8.6 - THETA 46 - AZ 000

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



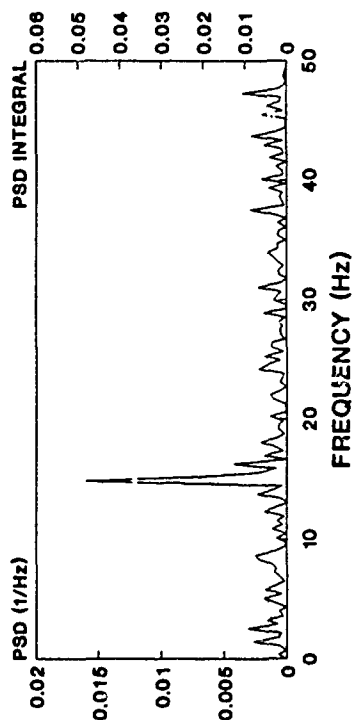
RECTANGLE - HT 8.5 - THETA 45 - AZ 000

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



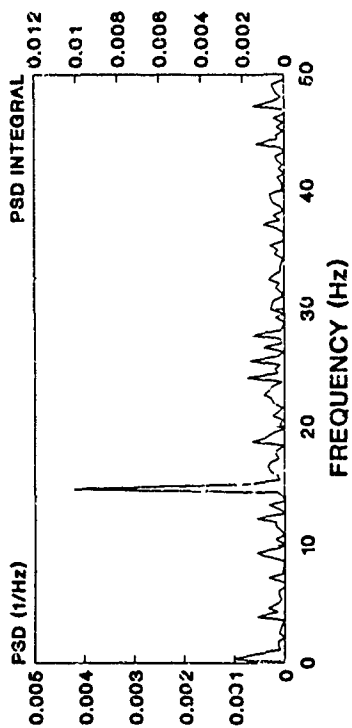
RECTANGLE - HT 8.6 - THETA 46 - AZ 000

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



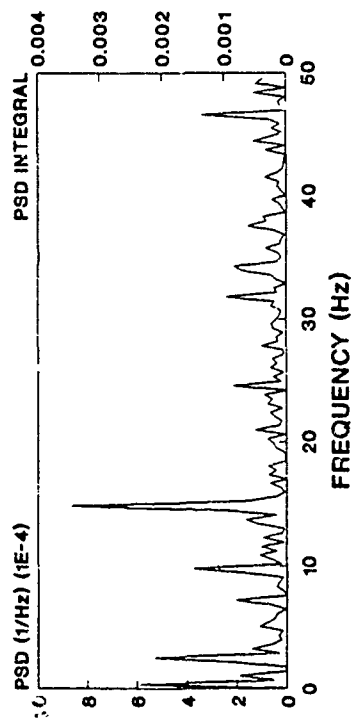
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



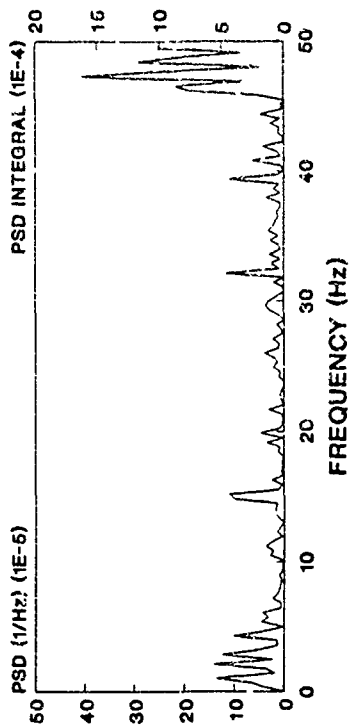
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



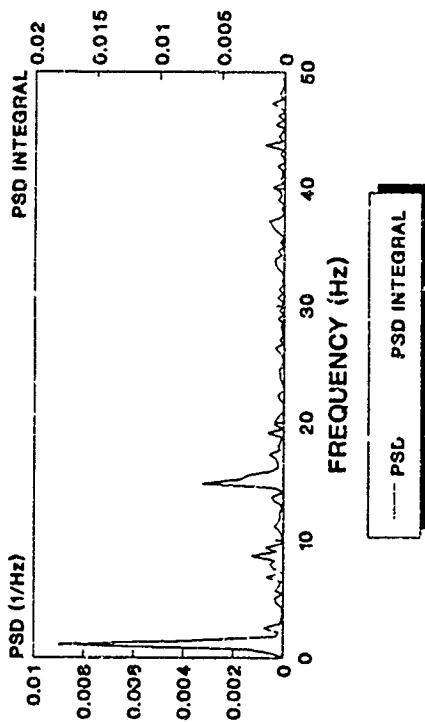
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



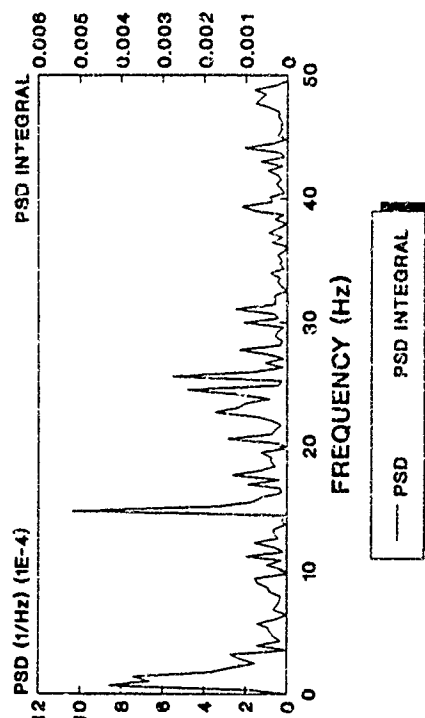
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



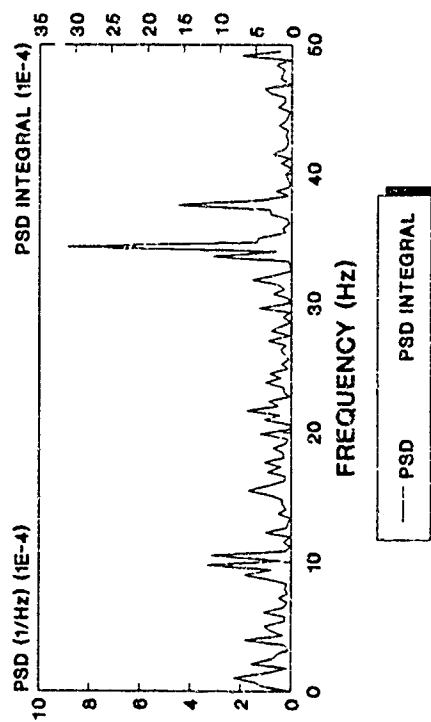
RECTANGLE - HT 8.5 - THETA 45 - AZ 030

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



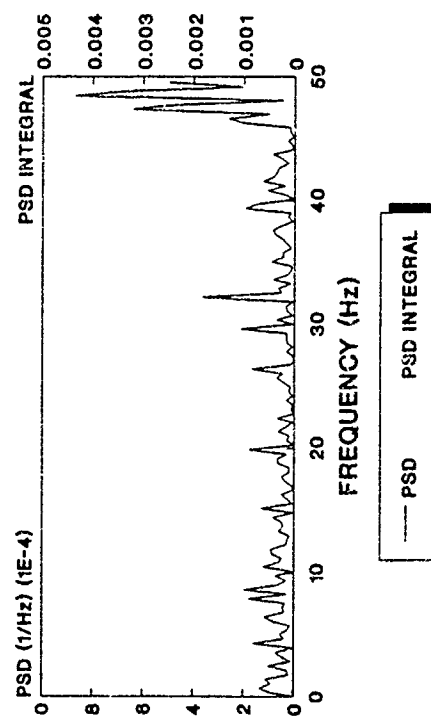
RECTANGLE - HT 8.5 - THETA 45 - AZ 030

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



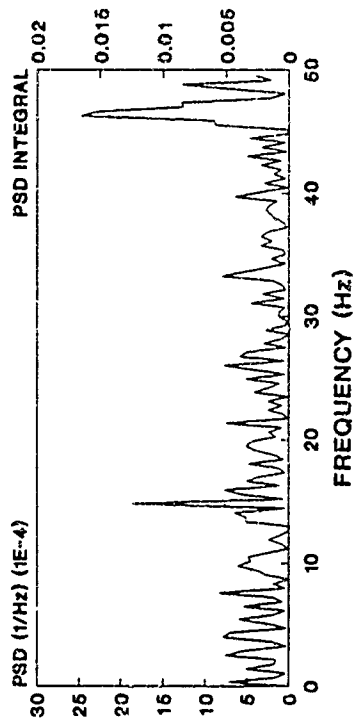
RECTANGLE - HT 8.5 - THETA 45 - AZ 030

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.5 - THETA 45 - AZ 030

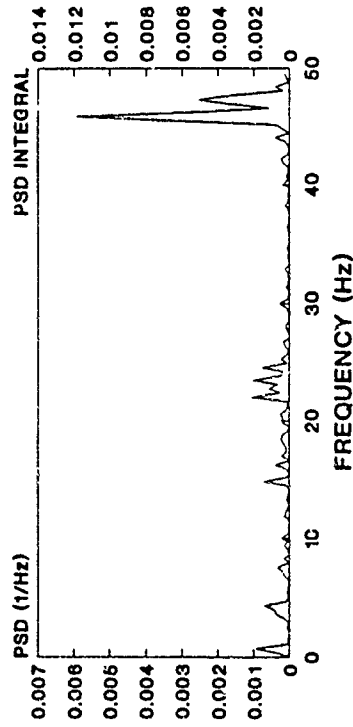
FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 030

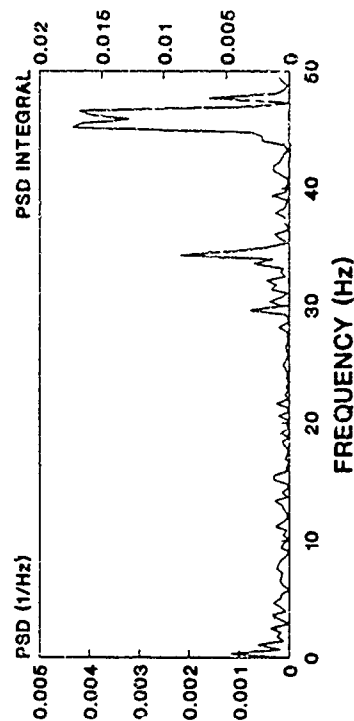
FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 030

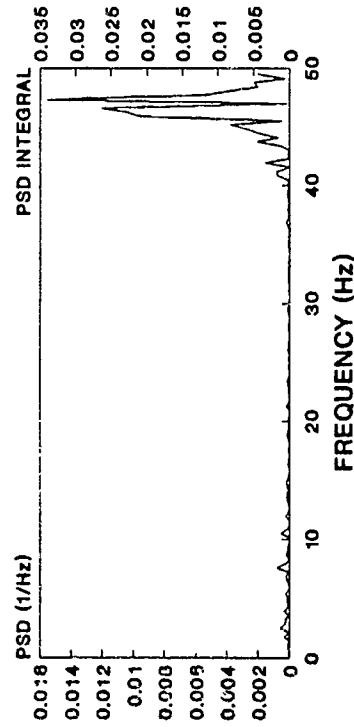
FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 030

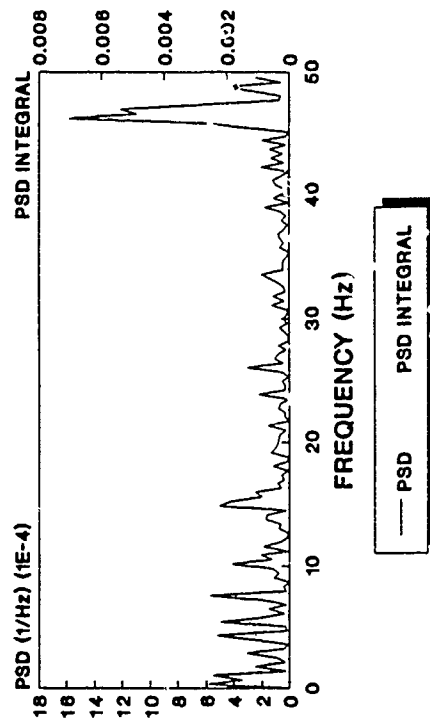
FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

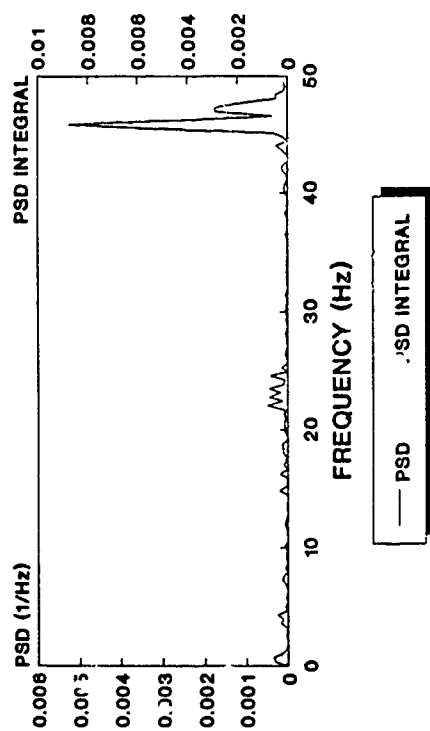
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



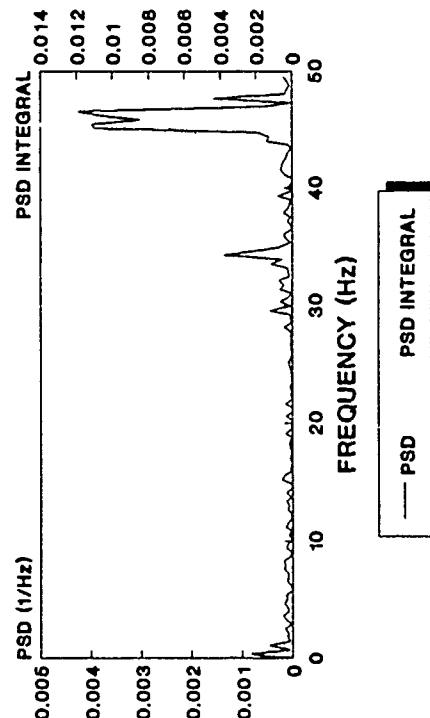
RECTANGLE - HT 8.5 - THETA 45 - AZ 030

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



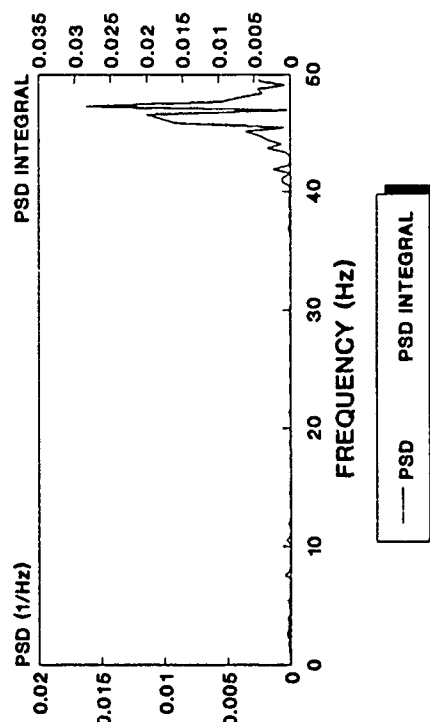
RECTANGLE - HT 8.5 - THETA 45 - AZ 030

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



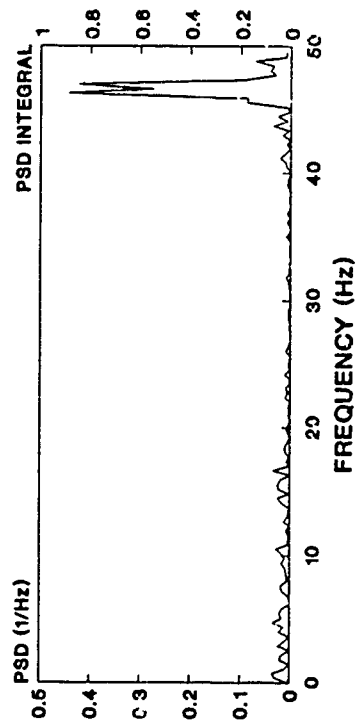
RECTANGLE - HT 8.5 - THETA 45 - AZ 030

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



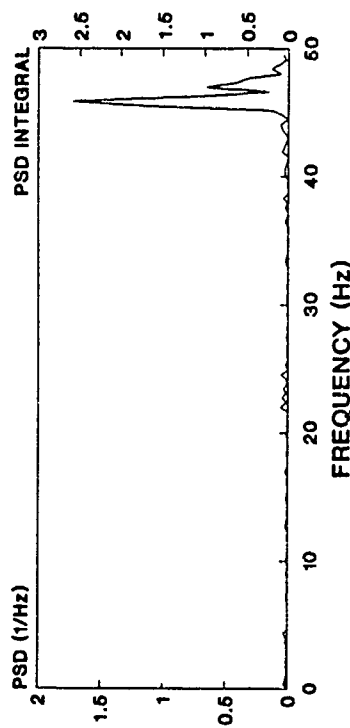
RECTANGLE - HT 8.5 - THETA 45 - AZ 030

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



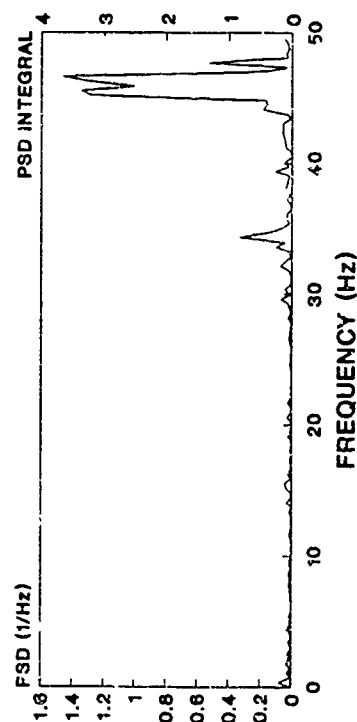
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



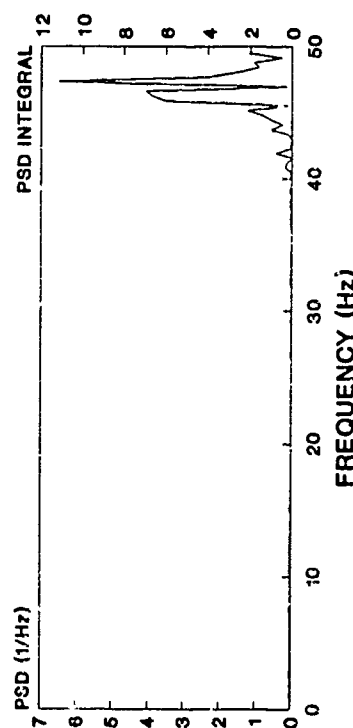
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



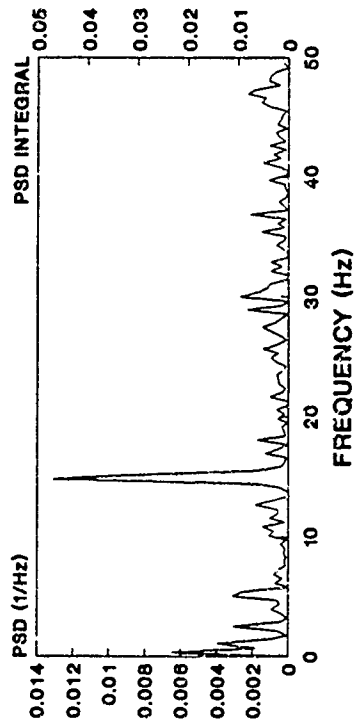
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



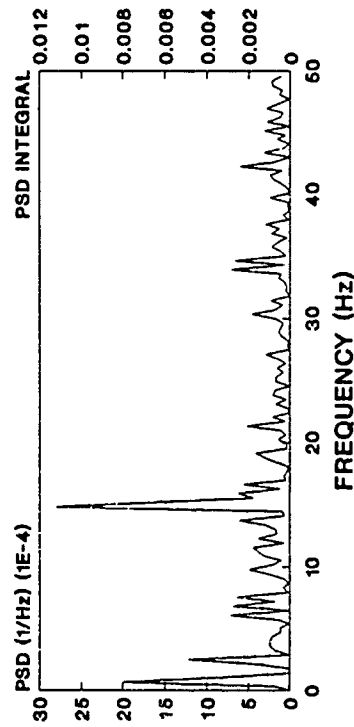
RECTANGLE - HT 8.6 - THETA 45 - AZ 030

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



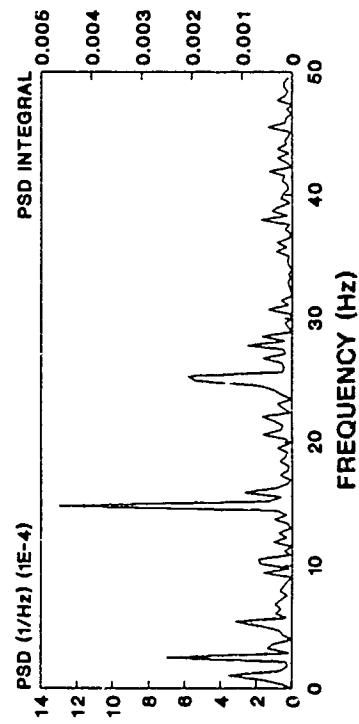
RECTANGLE - HT 8.5 - THETA 45 - AZ 045

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



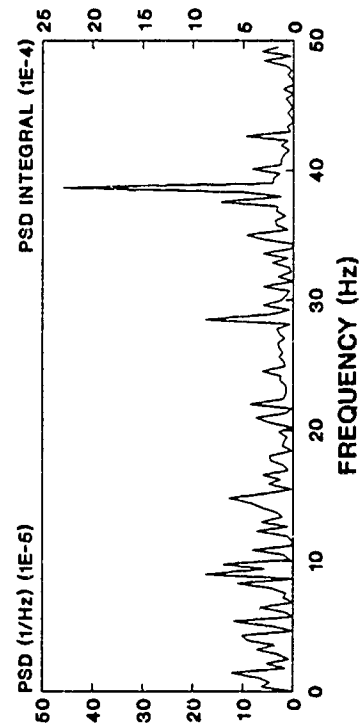
RECTANGLE - HT 8.5 - THETA 45 - AZ 045

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



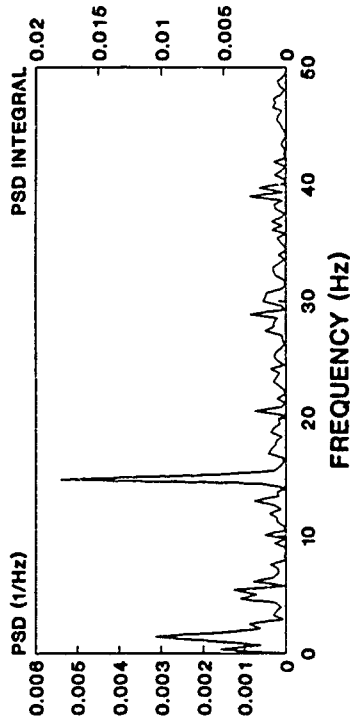
RECTANGLE - HT 8.5 - THETA 45 - AZ 045

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.5 - THETA 45 - AZ 045

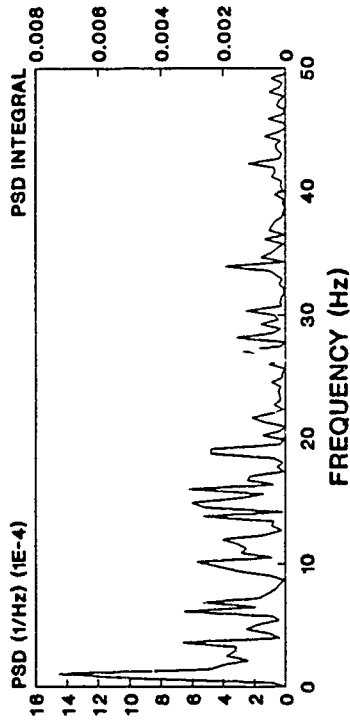
MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 045

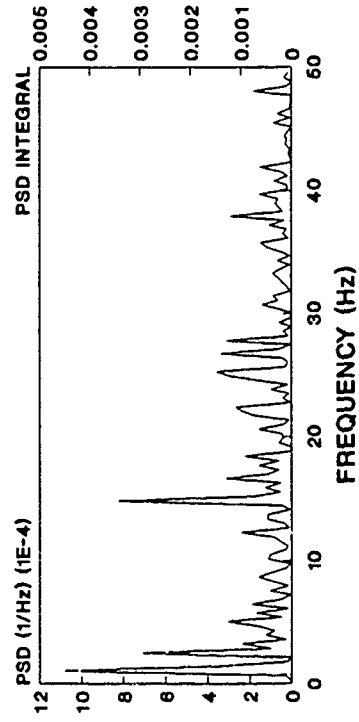
MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 045

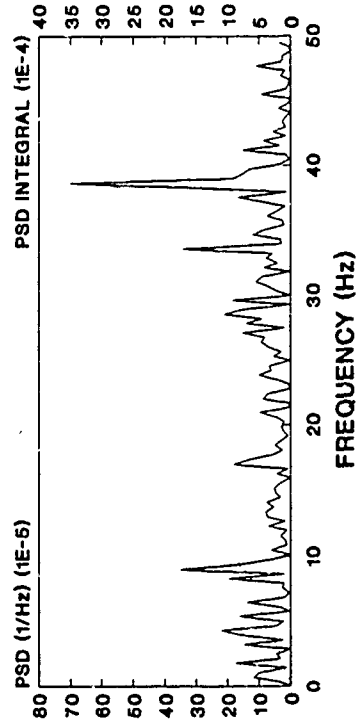
MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 045

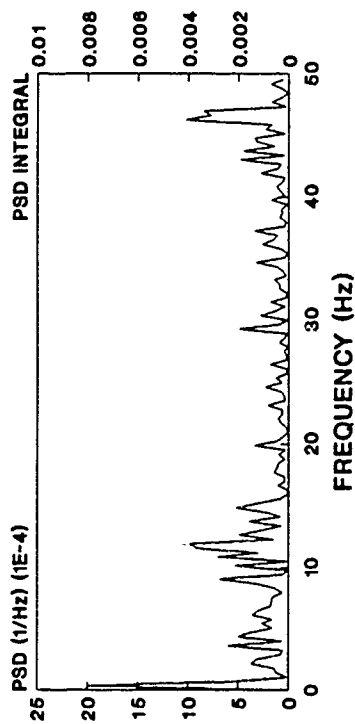
MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

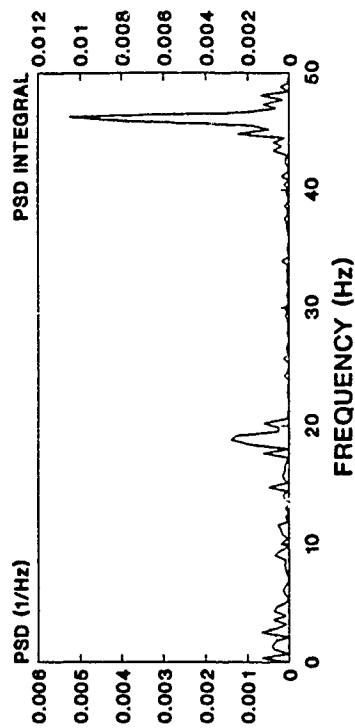
RECTANGLE - HT 8.5 - THETA 45 - AZ 045

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



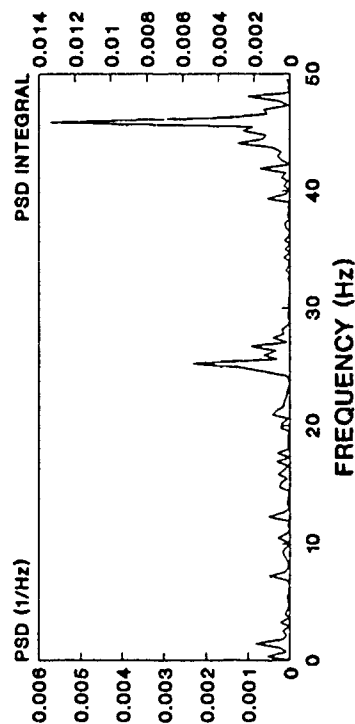
RECTANGLE - HT 8.6 - THETA 45 - AZ 046

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



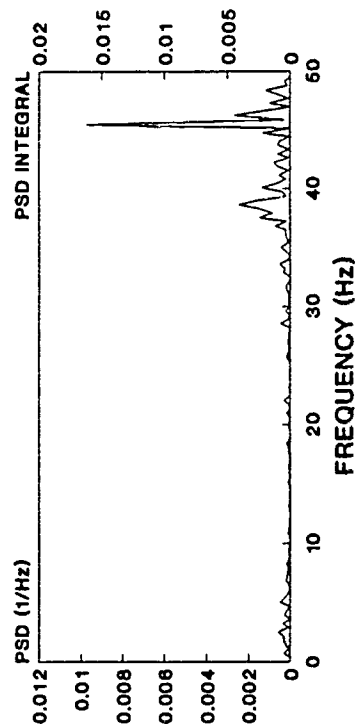
RECTANGLE - HT 8.6 - THETA 45 - AZ 045

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



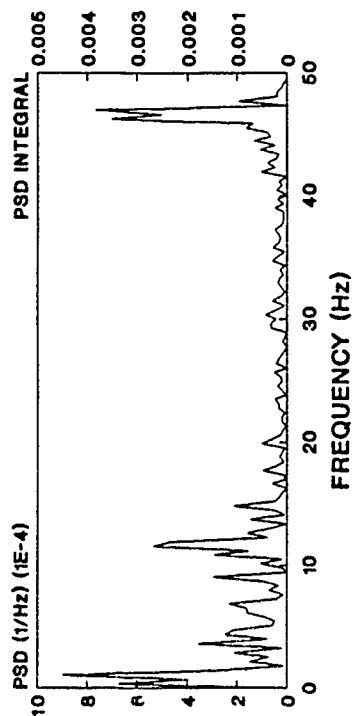
RECTANGLE - HT 8.6 - THETA 45 - AZ 046

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.6 - THETA 45 - AZ 045

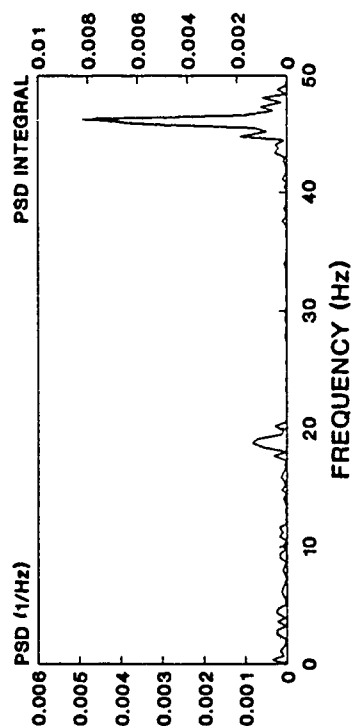
MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 6.5 - THETA 45 - AZ 045

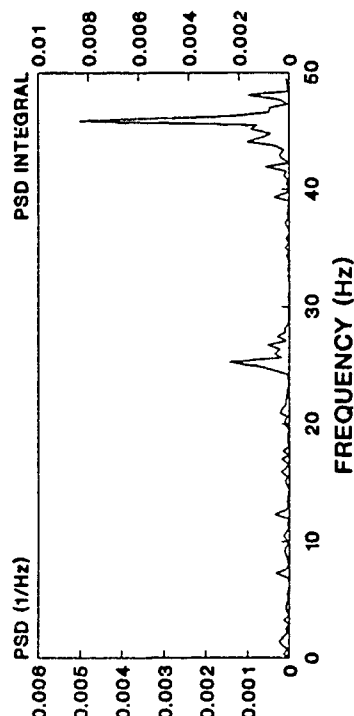
MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 045

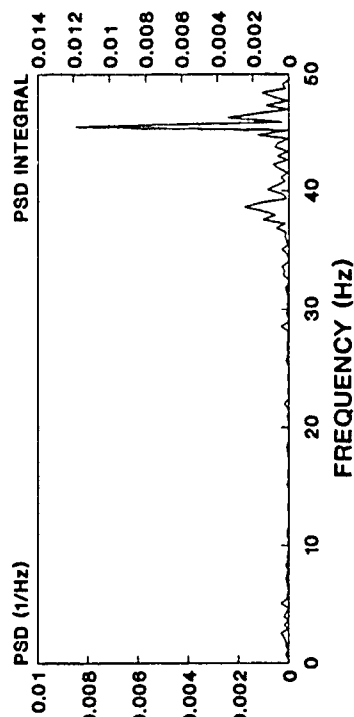
MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 6.5 - THETA 45 - AZ 045

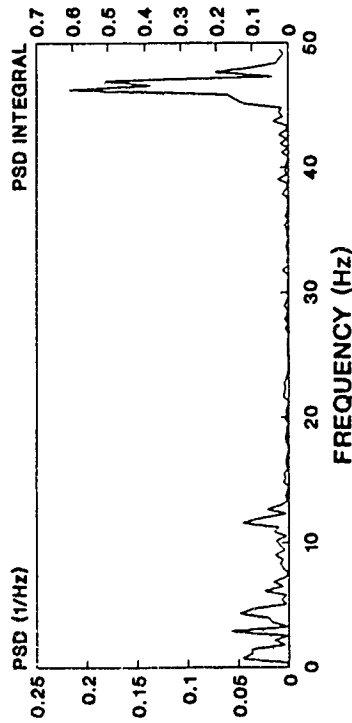
MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 045

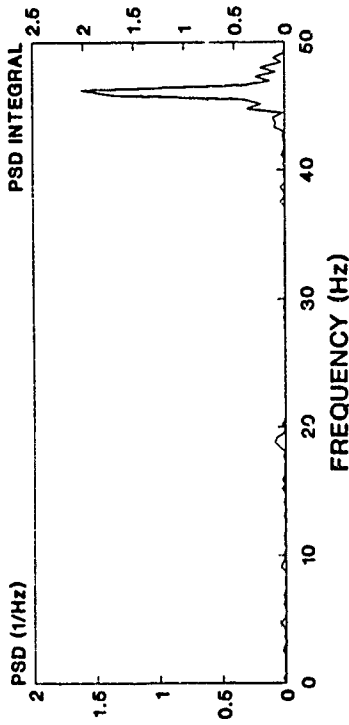
MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 045

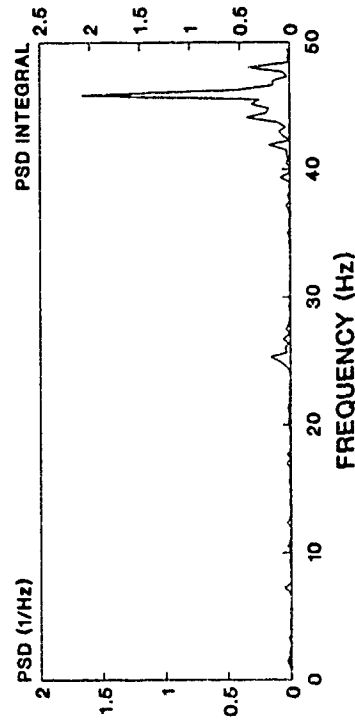
MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 045

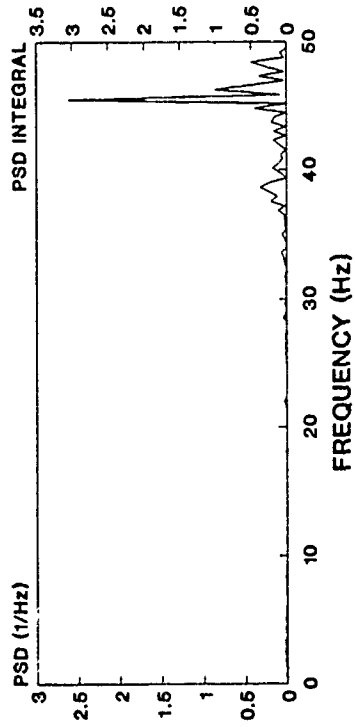
MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 045

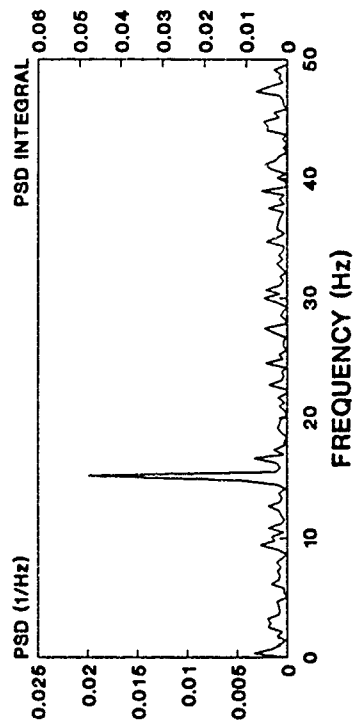
MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

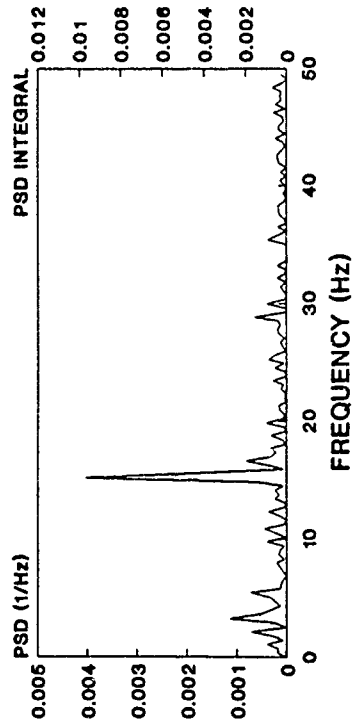
RECTANGLE - HT 8.6 - THETA 45 - AZ 045

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



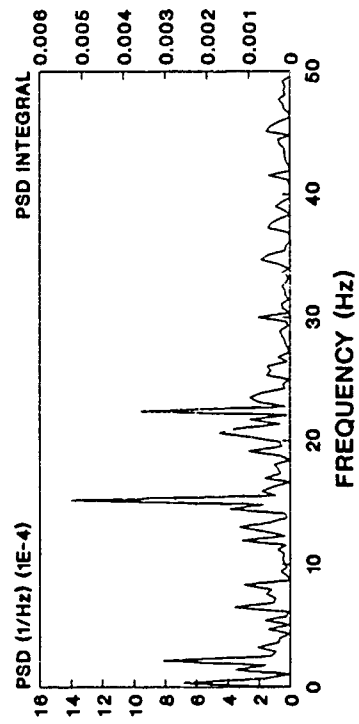
RECTANGLE - HT 8.5 - THETA 45 - AZ 060

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



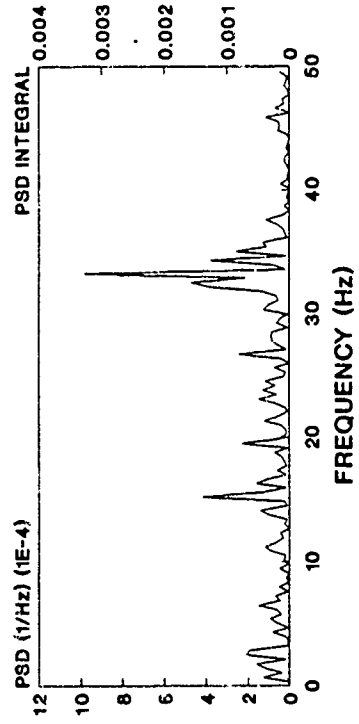
RECTANGLE - HT 8.5 - THETA 45 - AZ 060

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



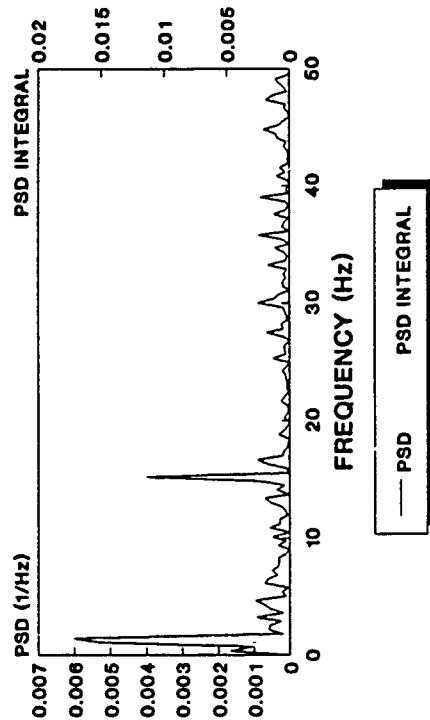
RECTANGLE - HT 8.5 - THETA 45 - AZ 060

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



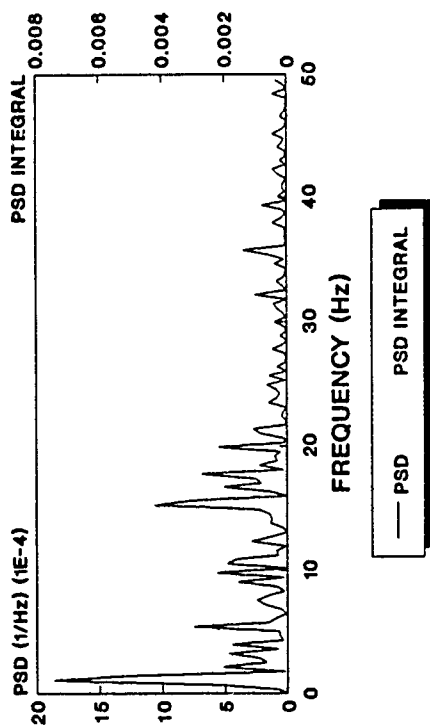
RECTANGLE - HT 8.5 - THETA 45 - AZ 060

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



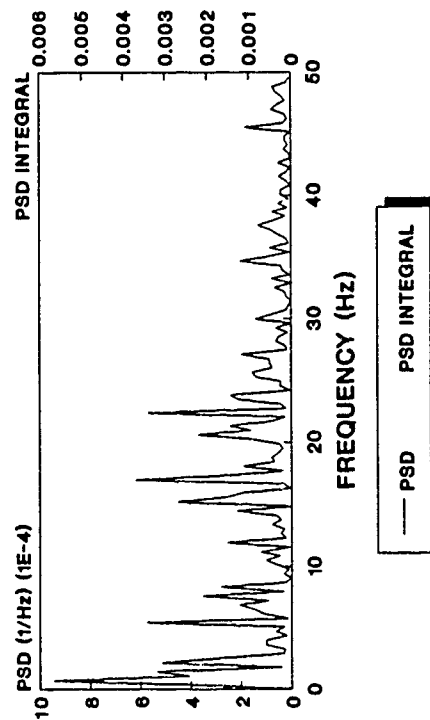
RECTANGLE - HT 8.6 - THETA 45 - AZ 060

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



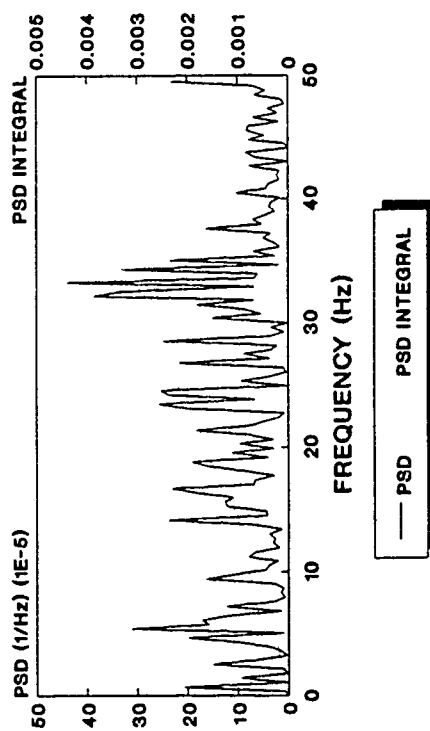
RECTANGLE - HT 8.6 - THETA 45 - AZ 060

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



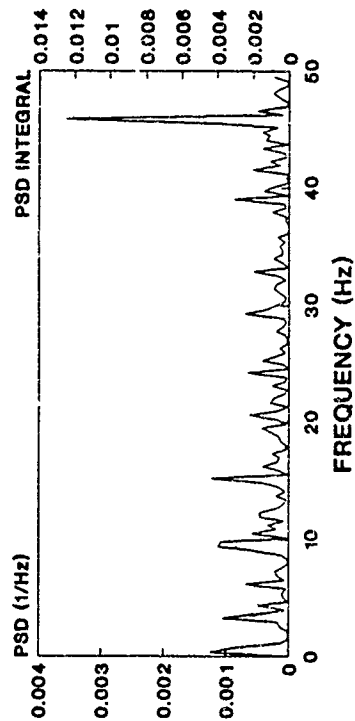
RECTANGLE - HT 8.6 - THETA 45 - AZ 060

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



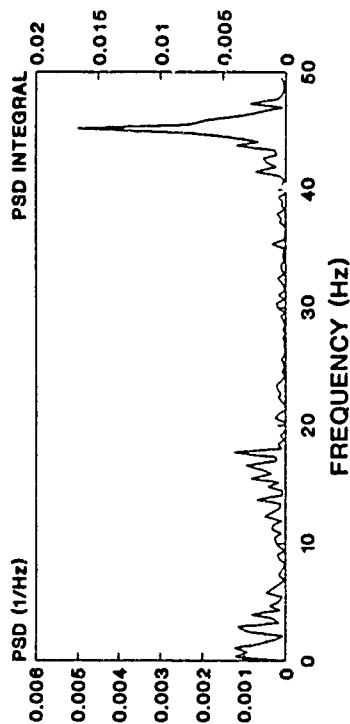
RECTANGLE - HT 8.6 - THETA 45 - AZ 060

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



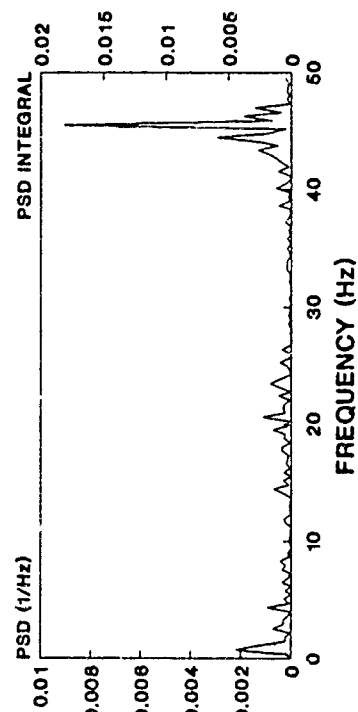
RECTANGLE - HT 8.6 - THETA 45 - AZ 080

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



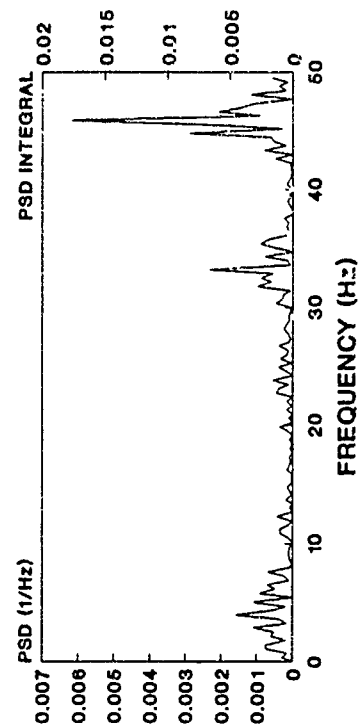
RECTANGLE - HT 8.6 - THETA 45 - AZ 080

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



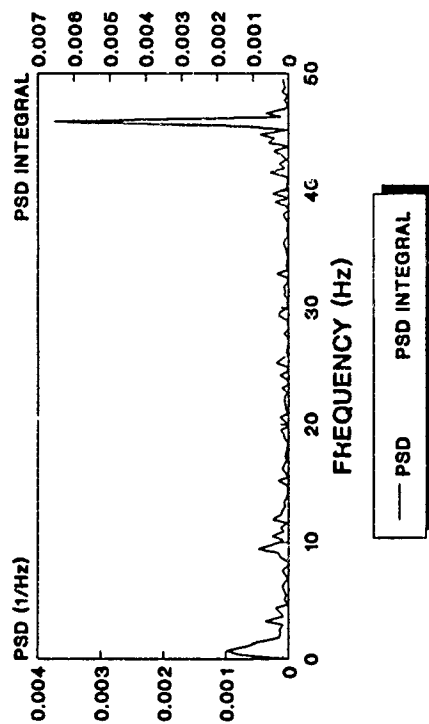
RECTANGLE - HT 8.6 - THETA 45 - AZ 080

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



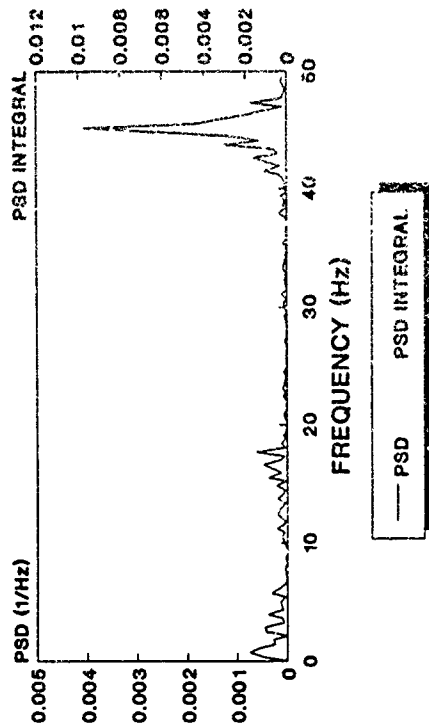
RECTANGLE - HT 8.6 - THETA 45 - AZ 080

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



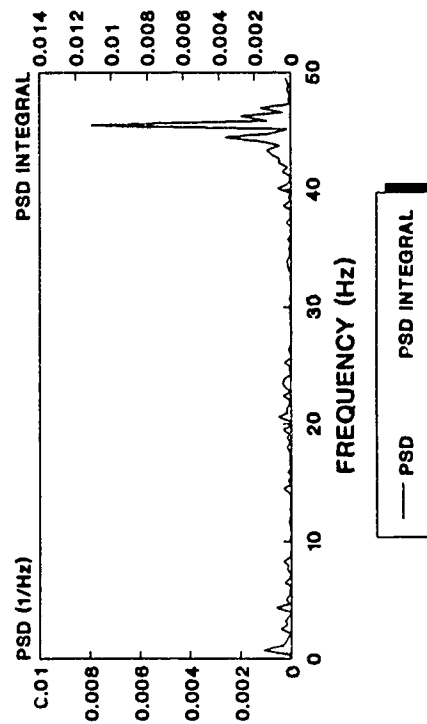
RECTANGLE - HT 8.6 - THETA 45 - AZ 060

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



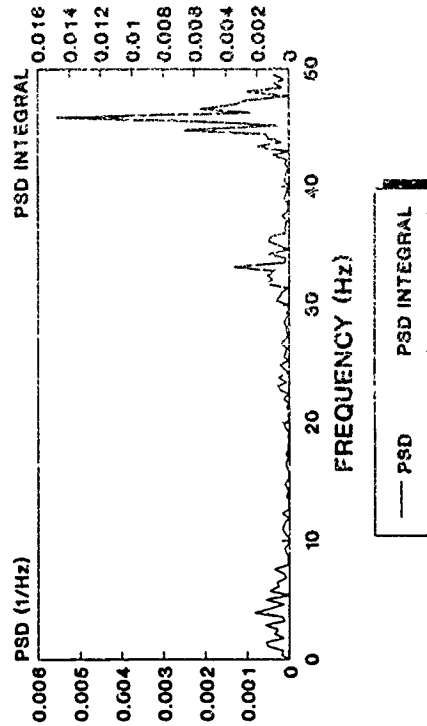
RECTANGLE - HT 8.6 - THETA 45 - AZ 060

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



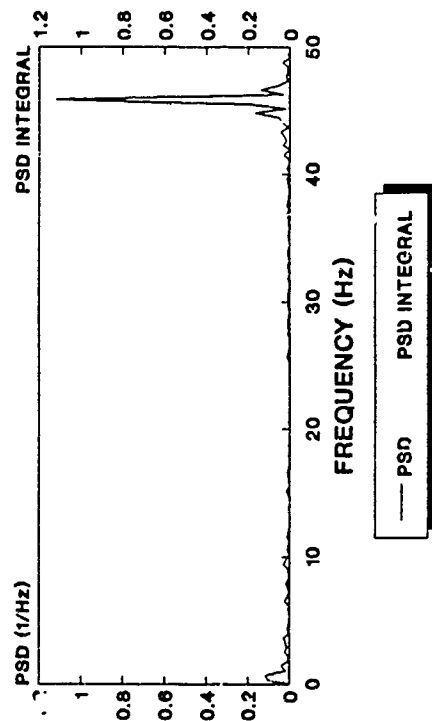
RECTANGLE - HT 8.6 - THETA 45 - AZ 060

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



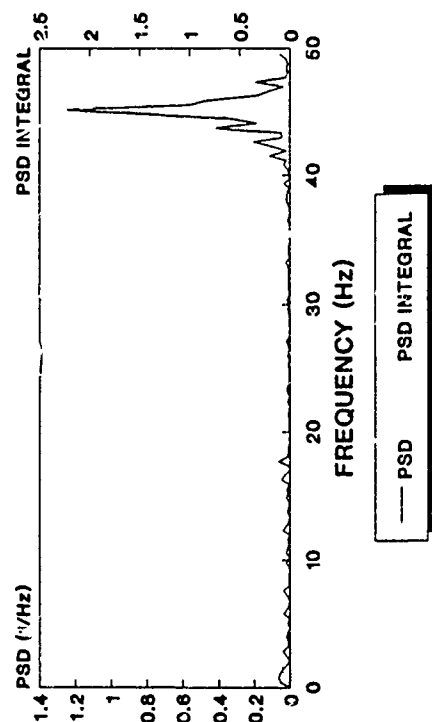
RECTANGLE - HT 8.6 - THETA 45 - AZ 060

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



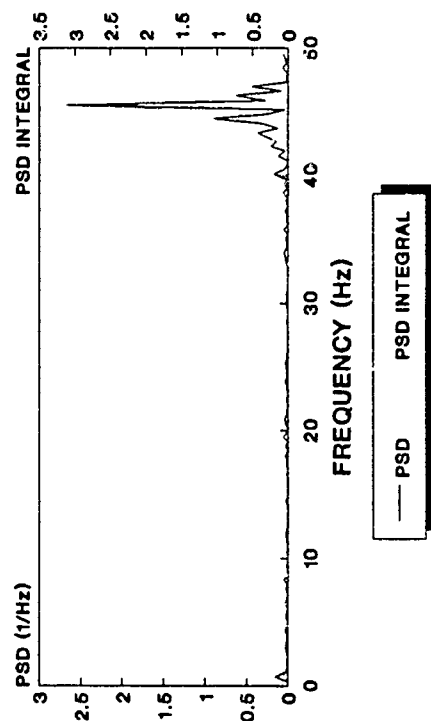
RECTANGLE - HT 85 - THETA 45 - AZ 060

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



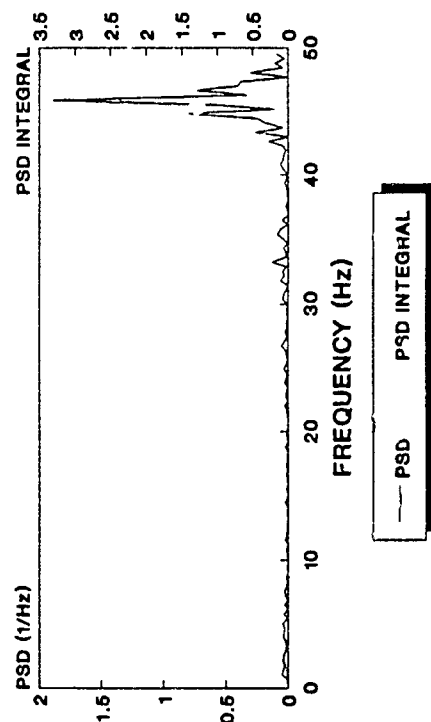
RECTANGLE - HT 75 - THETA 45 - AZ 060

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



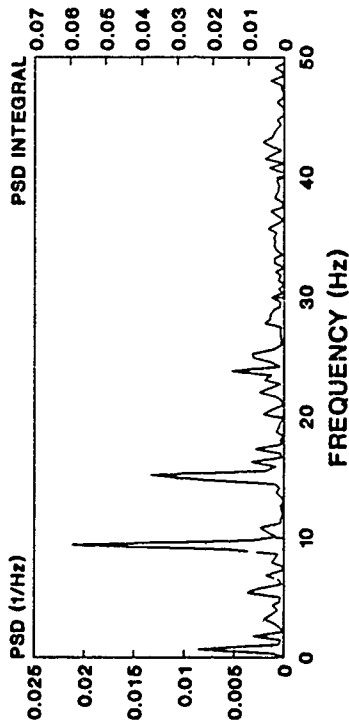
RECTANGLE - HT 75 - THETA 45 - AZ 060

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



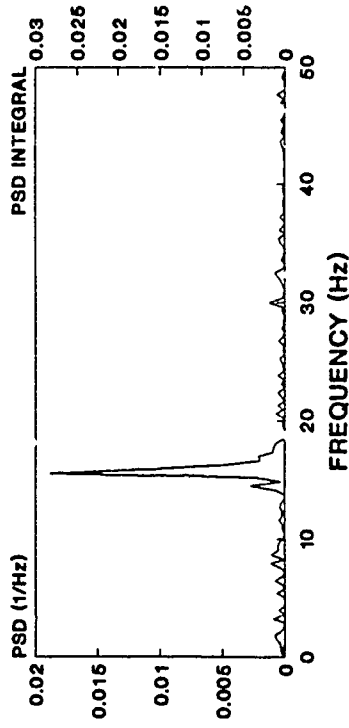
RECTANGLE - HT 85 - THETA 45 - AZ 060

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



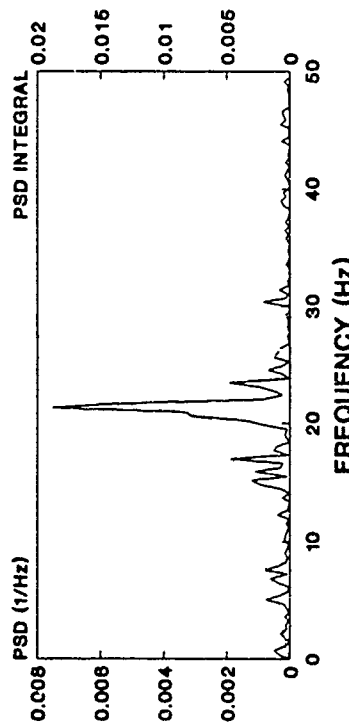
RECTANGLE - HT 8.6 - THETA 45 - AZ 090

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



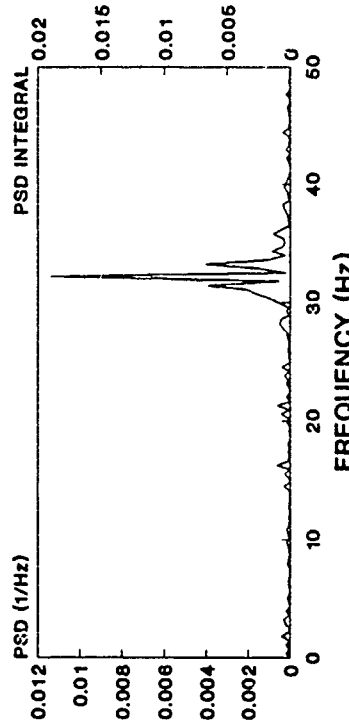
RECTANGLE - HT 8.6 - THETA 45 - AZ 090

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



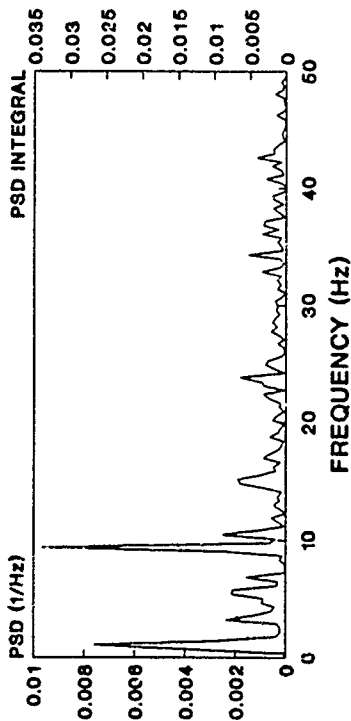
RECTANGLE - HT 8.6 - THETA 45 - AZ 090

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



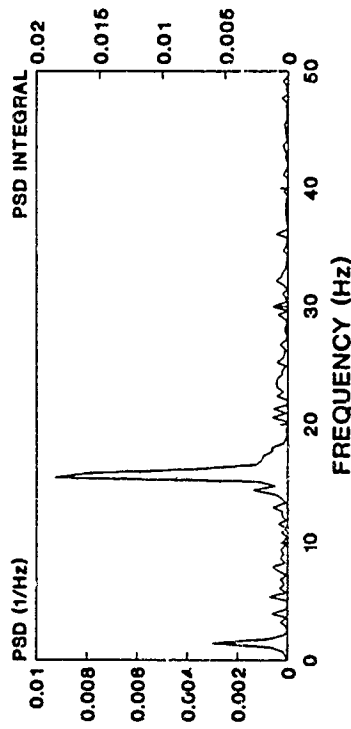
RECTANGLE - HT 8.6 - THETA 45 - AZ 090

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



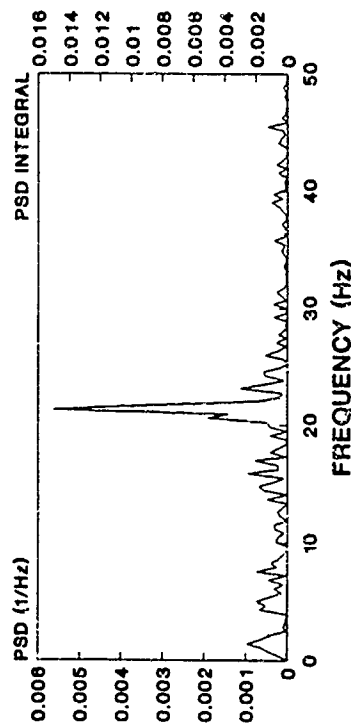
RECTANGLE - HT 9.5 - THETA 45 - AZ 090

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



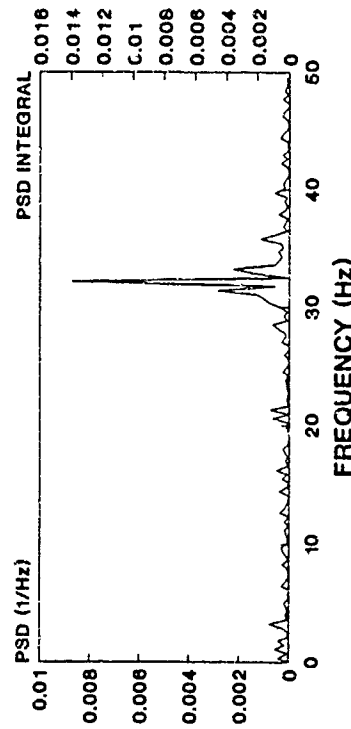
RECTANGLE - HT 9.5 - THETA 45 - AZ 090

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



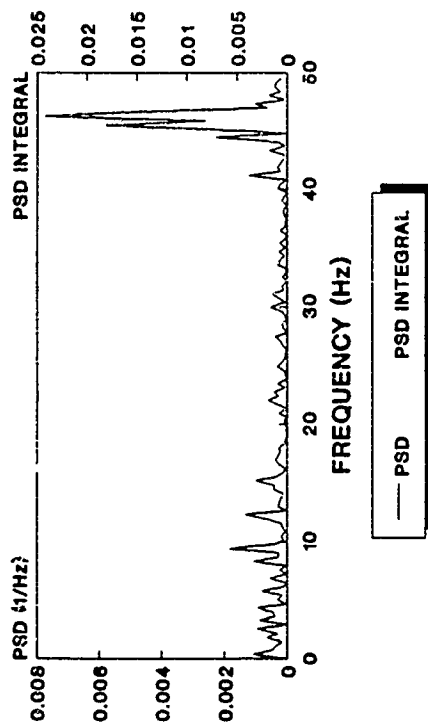
RECTANGLE - HT 9.5 - THETA 45 - AZ 090

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



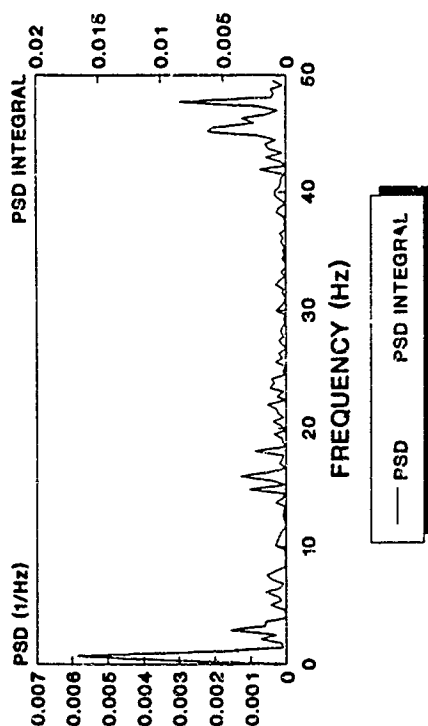
RECTANGLE - HT 9.5 - THETA 45 - AZ 090

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



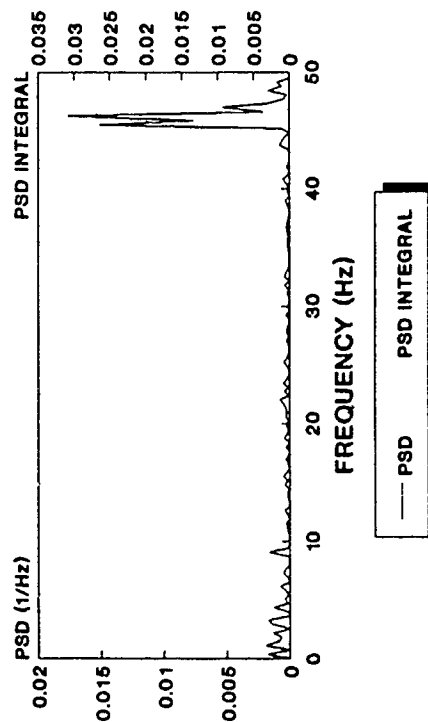
RECTANGLE - HT 8.6 - THETA 46 - AZ 090

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



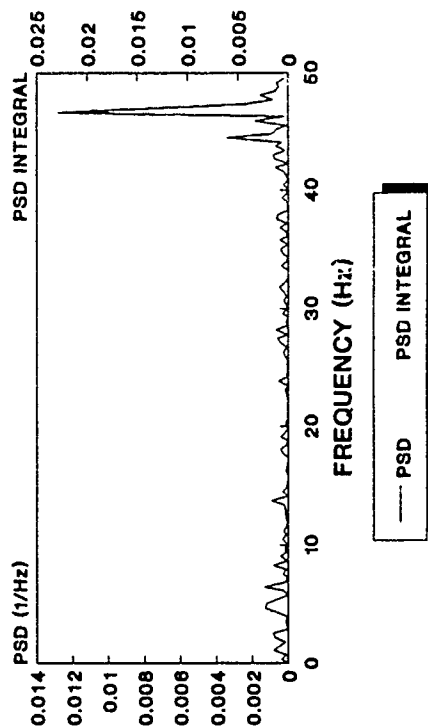
RECTANGLE - HT 8.6 - THETA 46 - AZ 090

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



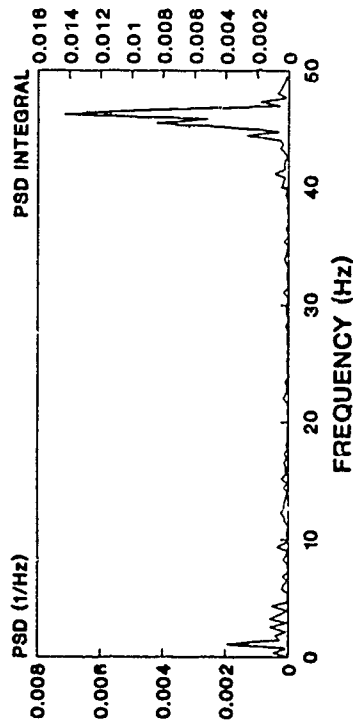
RECTANGLE - HT 8.6 - THETA 46 - AZ 090

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



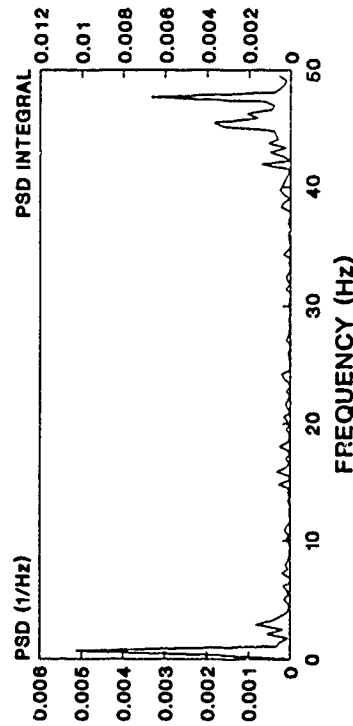
RECTANGLE - HT 8.6 - THETA 46 - AZ 090

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



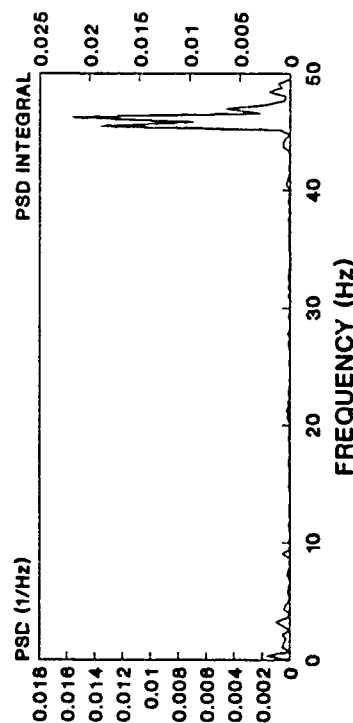
RECTANGLE - HT 8.5 - THETA 45 - AZ 090

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



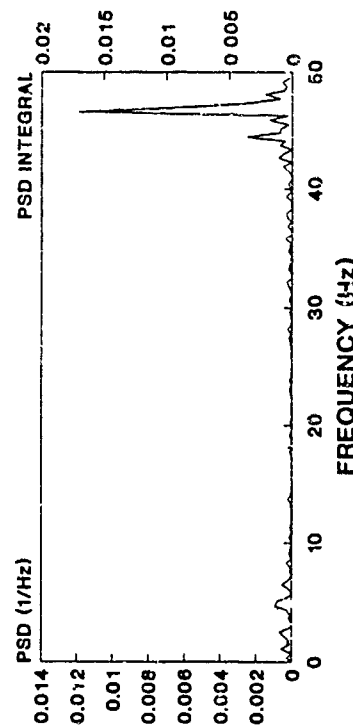
RECTANGLE - HT 8.5 - THETA 45 - AZ 090

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



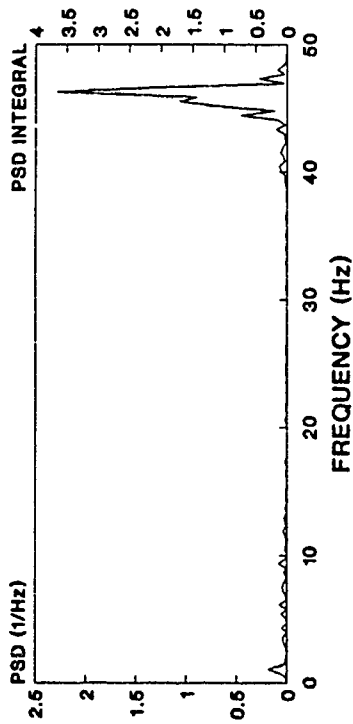
RECTANGLE - HT 8.5 - THETA 45 - AZ 090

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



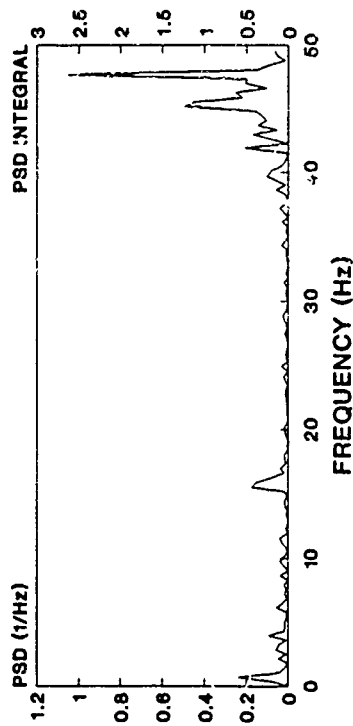
RECTANGLE - HT 8.5 - THETA 45 - AZ 090

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



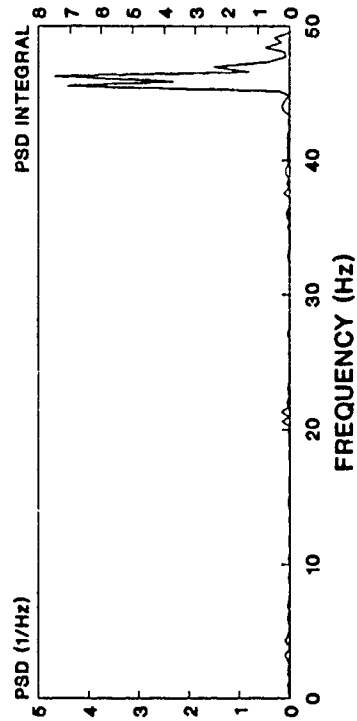
RECTANGLE - HT 8.5 - THETA 45 - AZ 090

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



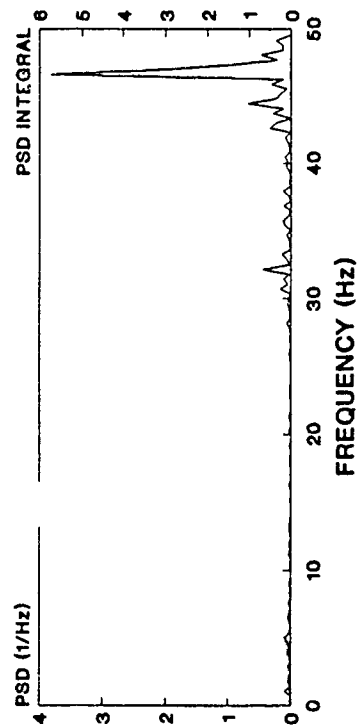
RECTANGLE - HT 3.5 - THETA 45 - AZ 090

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



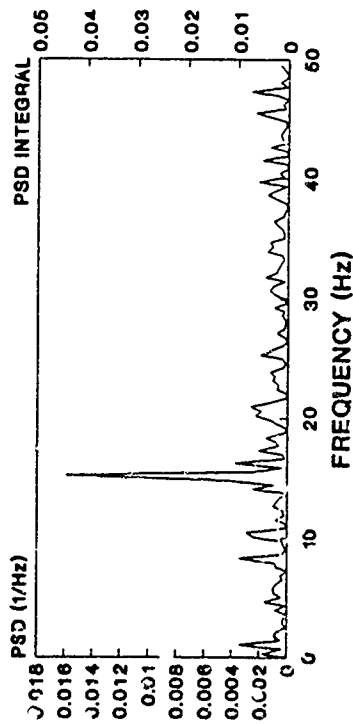
RECTANGLE - HT 8.5 - THETA 45 - AZ 090

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.5 - THETA 45 - AZ 090

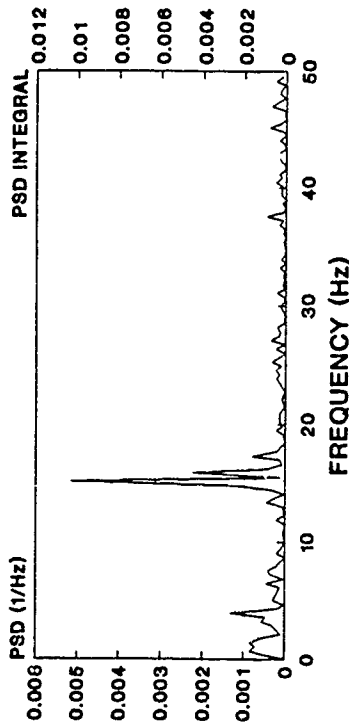
FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 120

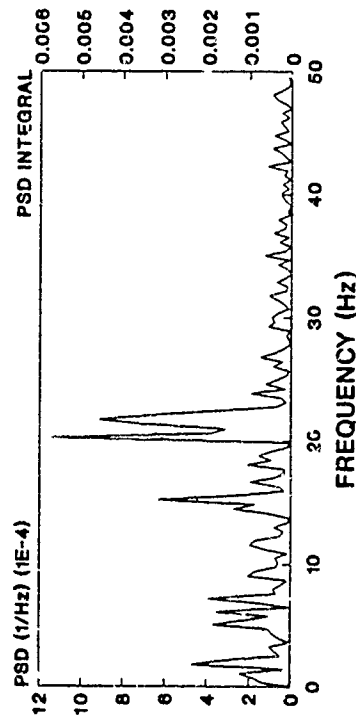
FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 120

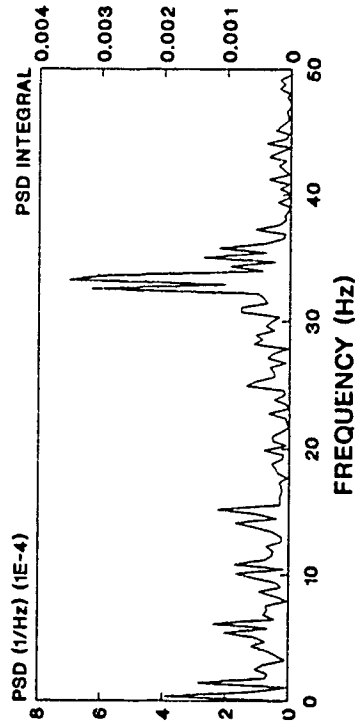
FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 120

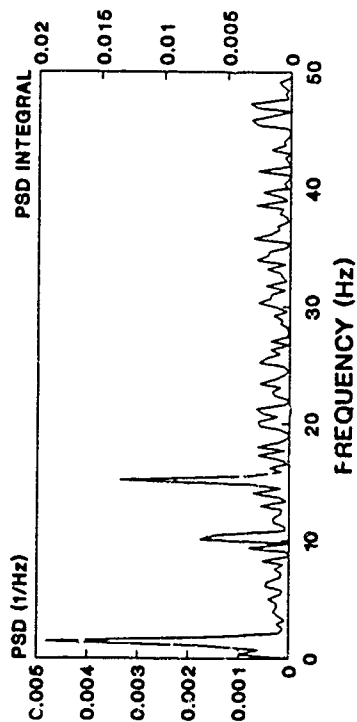
FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 120

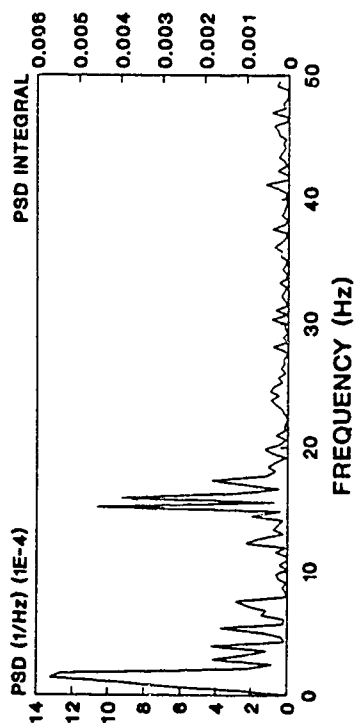
MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



— PSD - - - PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 120

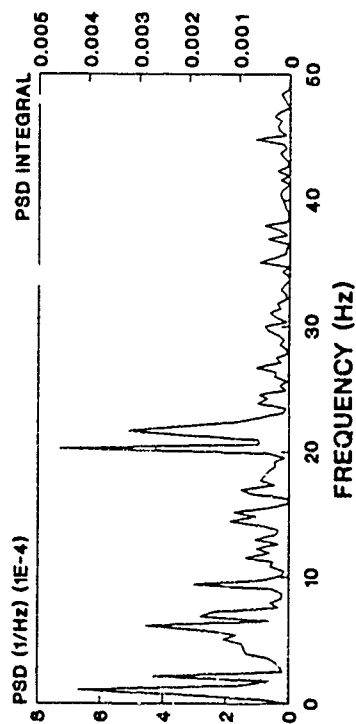
MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



— PSD - - - PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 120

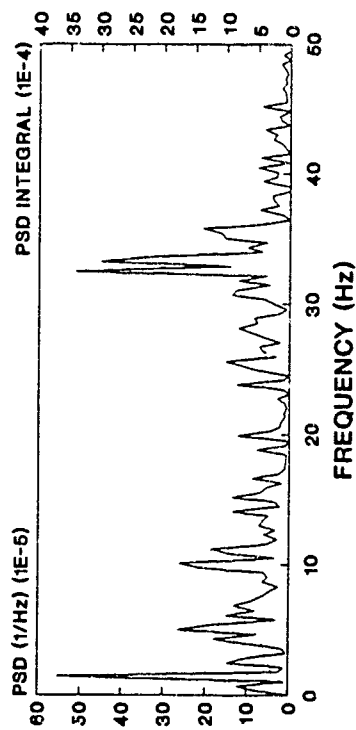
MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



— PSD - - - PSD INTEGRAL

RECTANGLE - HT 8.6 - THETA 45 - AZ 120

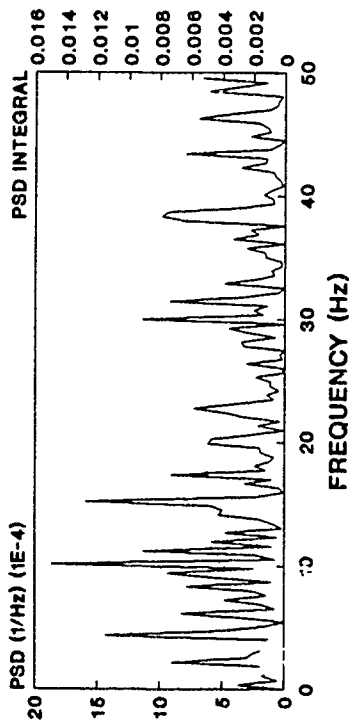
MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



— PSD - - - PSD INTEGRAL

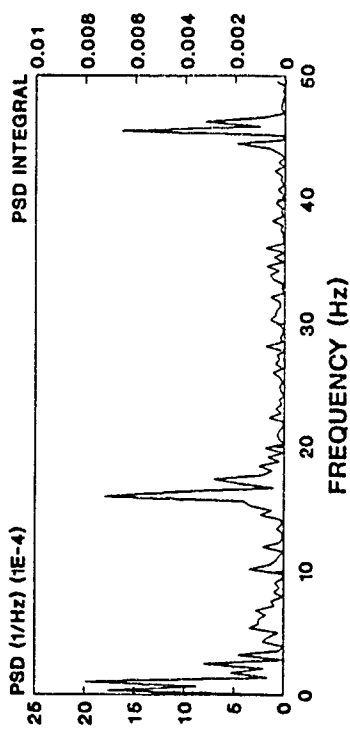
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



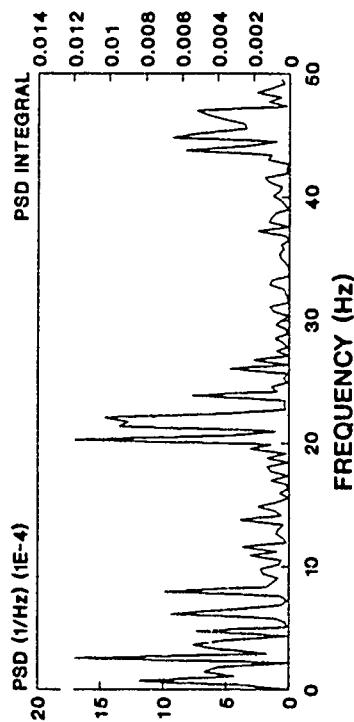
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



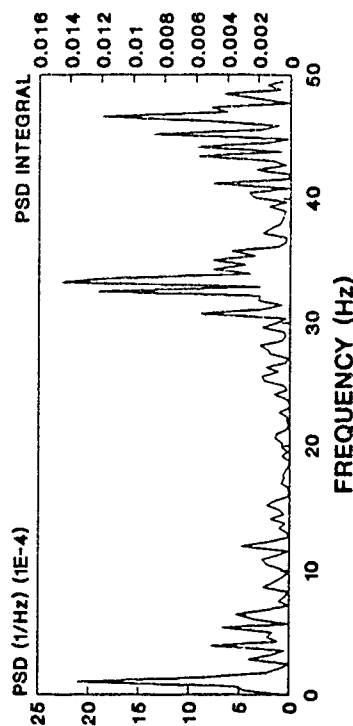
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



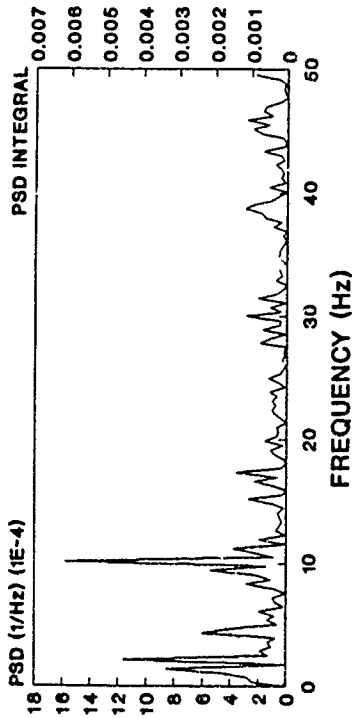
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



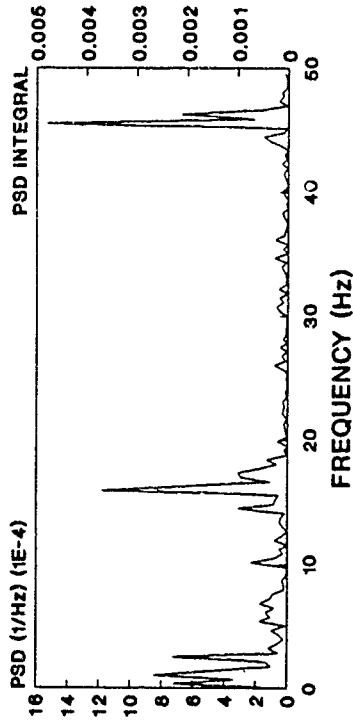
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



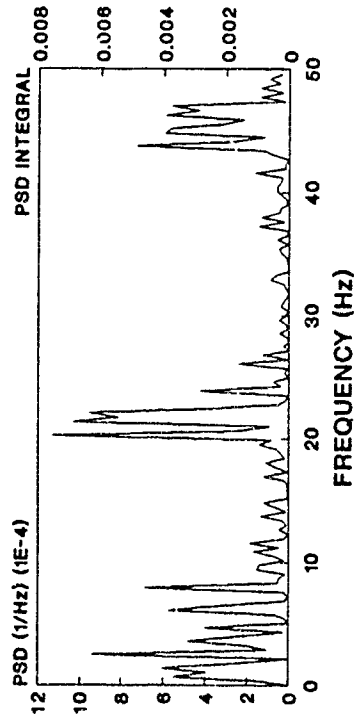
RECTANGLE - HT 8.5 - THETA 45 - AZ 120

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



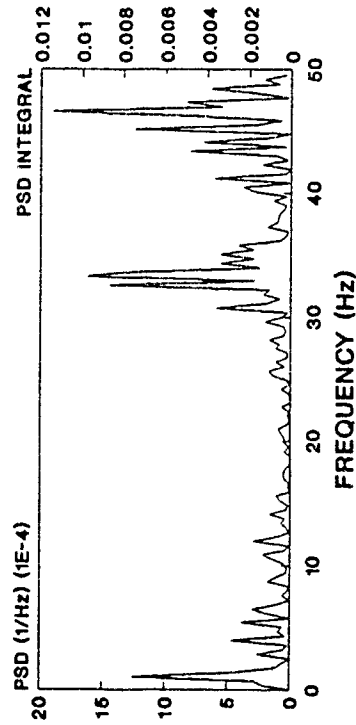
RECTANGLE - HT 8.5 - THETA 45 - AZ 120

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



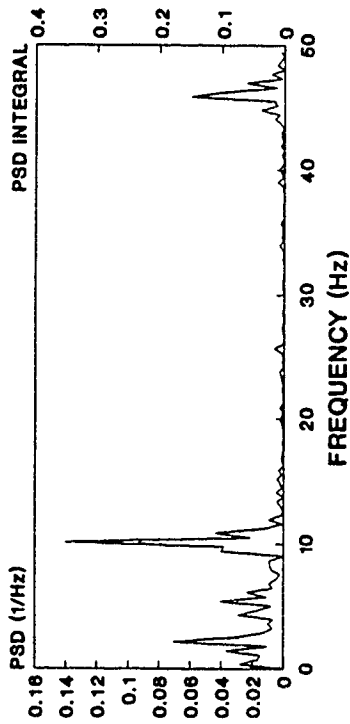
RECTANGLE - HT 8.5 - THETA 45 - AZ 120

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



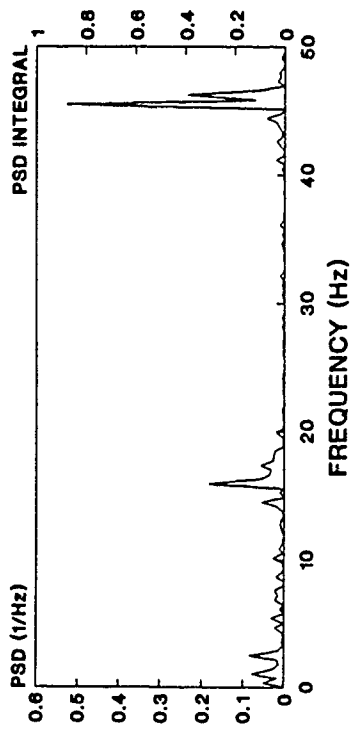
RECTANGLE - HT 8.5 - THETA 45 - AZ 120

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



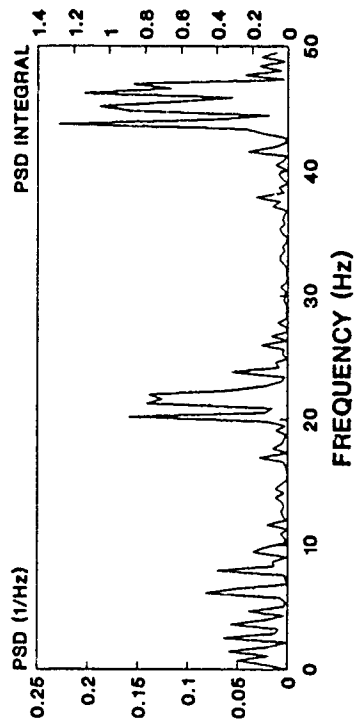
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



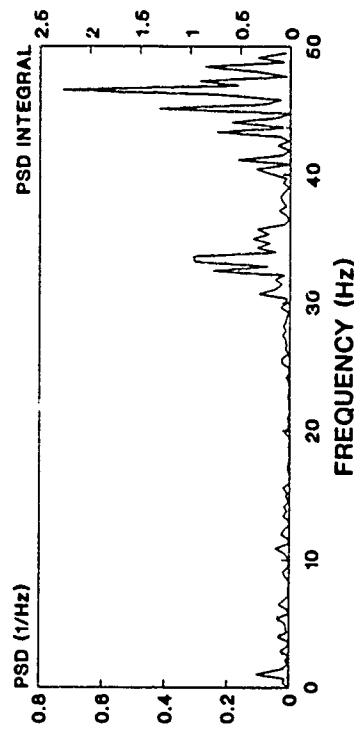
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



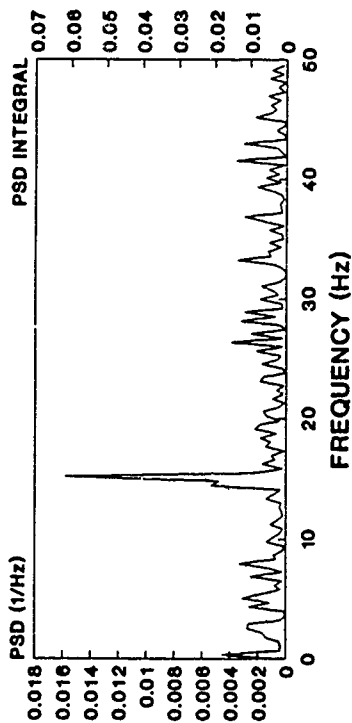
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



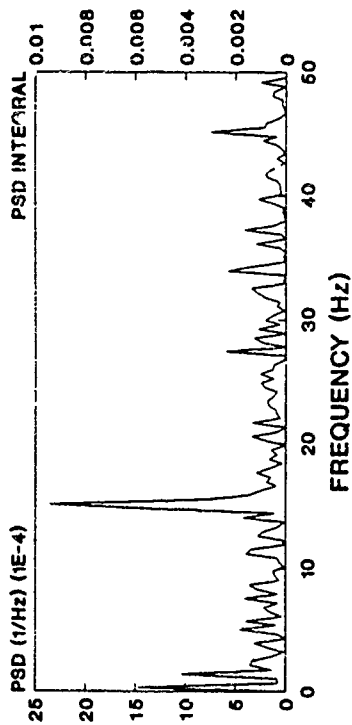
RECTANGLE - HT 8.6 - THETA 45 - AZ 120

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



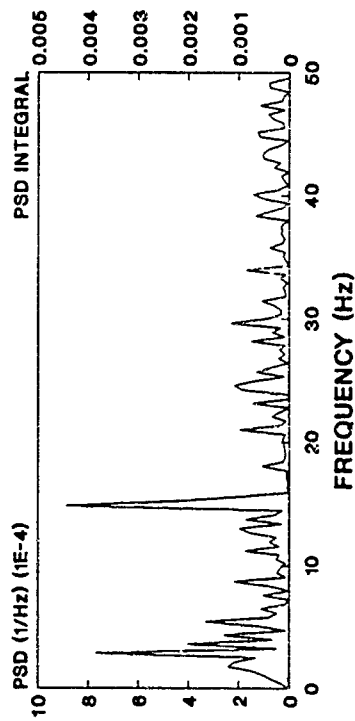
RECTANGLE - HT 6.6 - THETA 46 - AZ 136

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



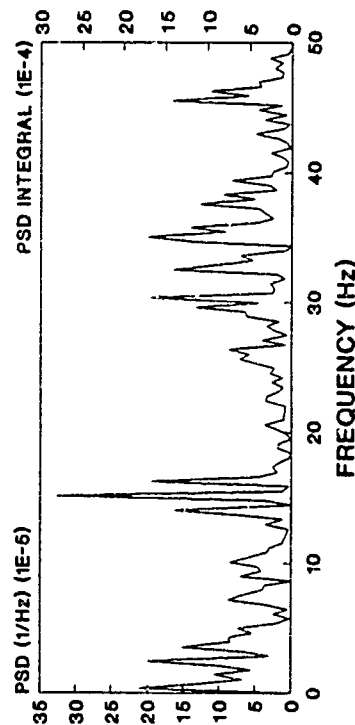
RECTANGLE - HT 6.6 - THETA 46 - AZ 136

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



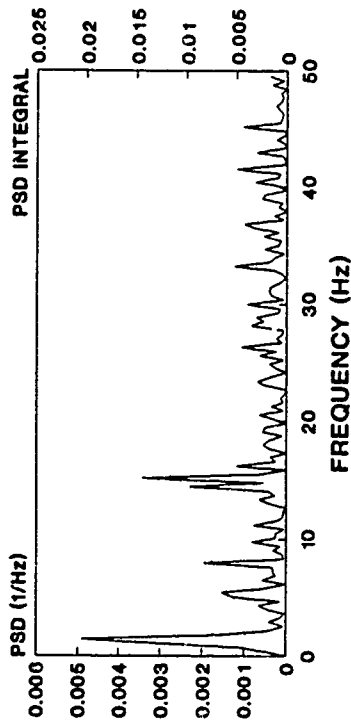
RECTANGLE - HT 6.6 - THETA 46 - AZ 136

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



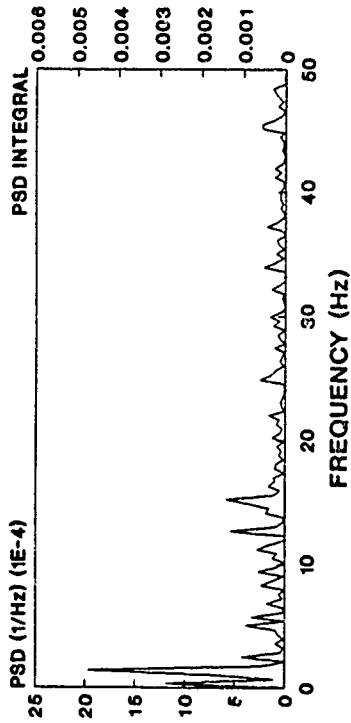
RECTANGLE - HT 6.6 - THETA 46 - AZ 136

MOMENT COEFF - NORMAL **60 FT/SEC NOMINAL**



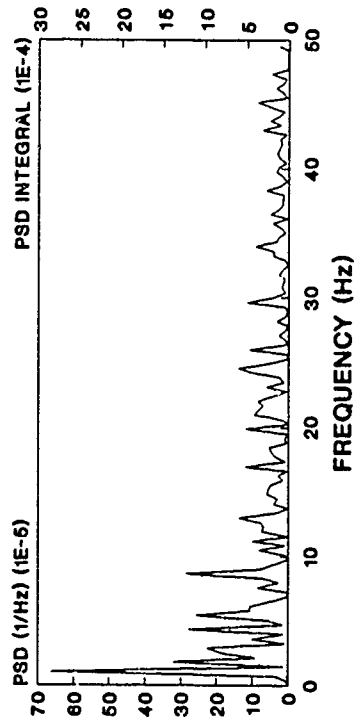
RECTANGLE - HT 8.6 - THETA 46 - AZ 136

MOMENT COEFF - NORMAL **90 FT/SEC NOMINAL**



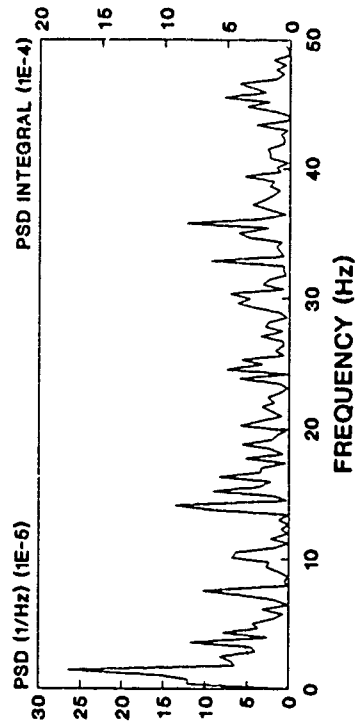
RECTANGLE - HT 8.6 - THETA 46 - AZ 136

MOMENT COEFF - NORMAL **120 FT/SEC NOMINAL**



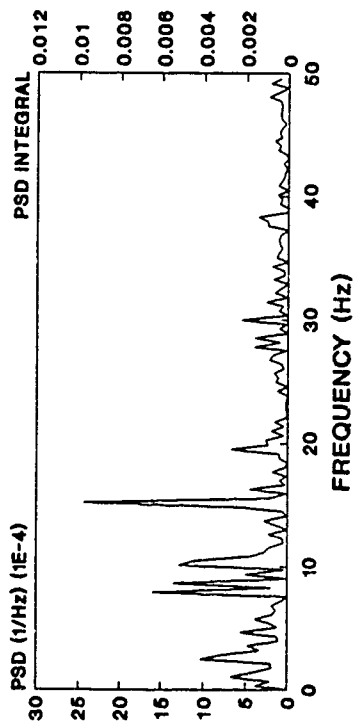
RECTANGLE - HT 8.6 - THETA 46 - AZ 136

MOMENT COEFF - NORMAL **180 FT/SEC NOMINAL**



RECTANGLE - HT 8.6 - THETA 46 - AZ 136

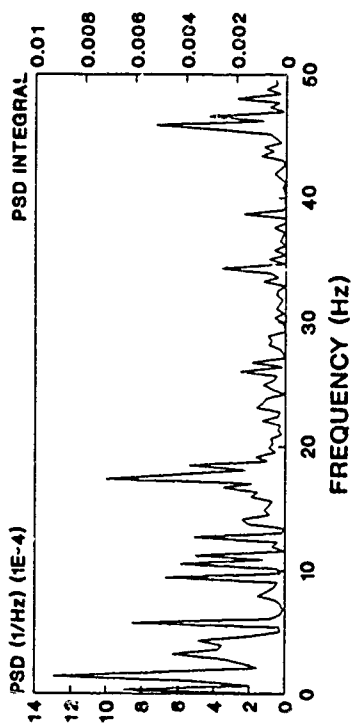
FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 136

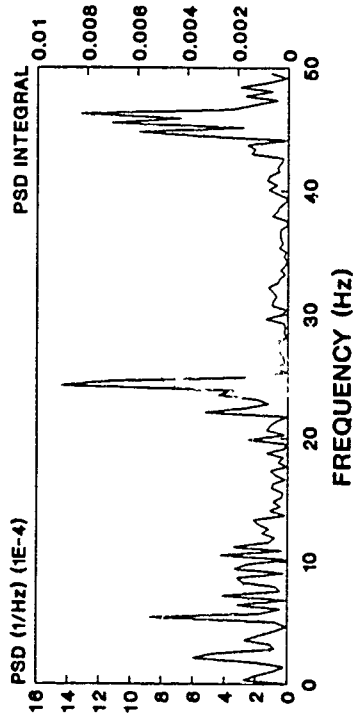
FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 135

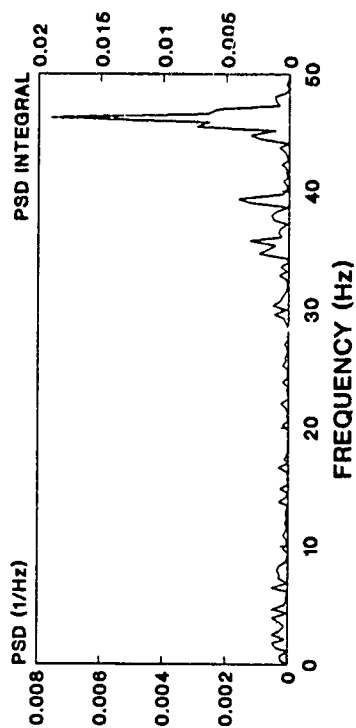
FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 136

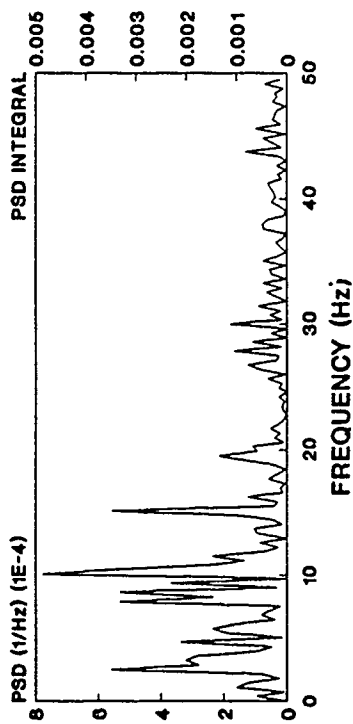
FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

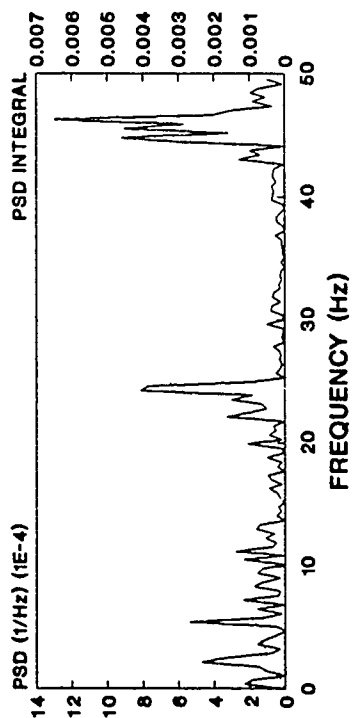
RECTANGLE - HT 8.5 - THETA 45 - AZ 135

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



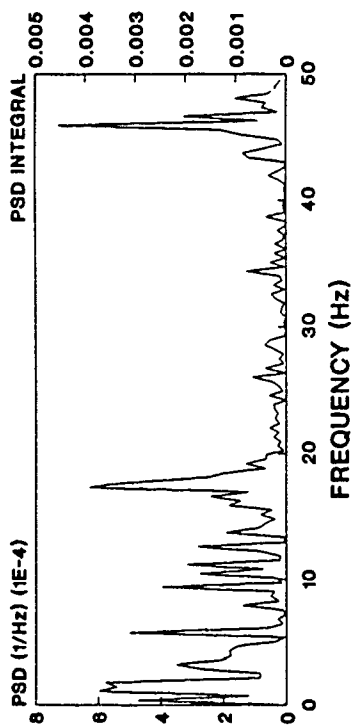
RECTANGLE - HT 6.6 - THETA 45 - AZ 135

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



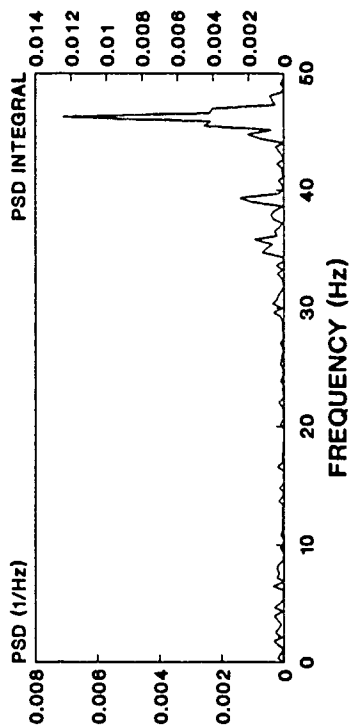
RECTANGLE - HT 6.6 - THETA 45 - AZ 135

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



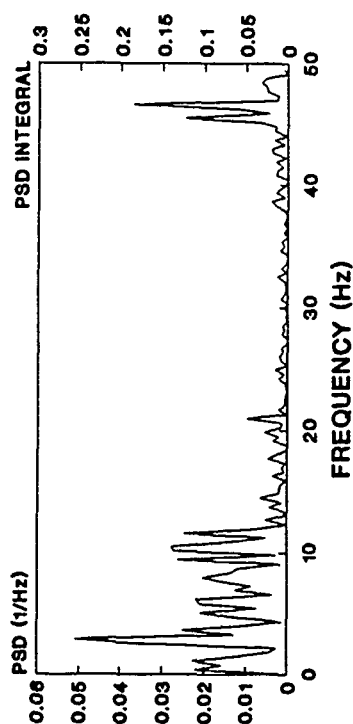
RECTANGLE - HT 6.6 - THETA 45 - AZ 135

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



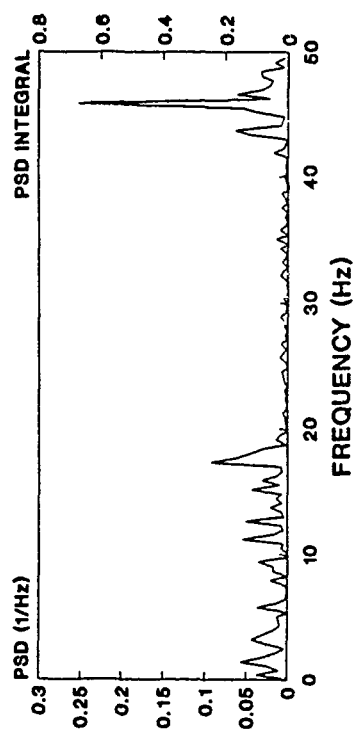
RECTANGLE - HT 6.6 - THETA 45 - AZ 135

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



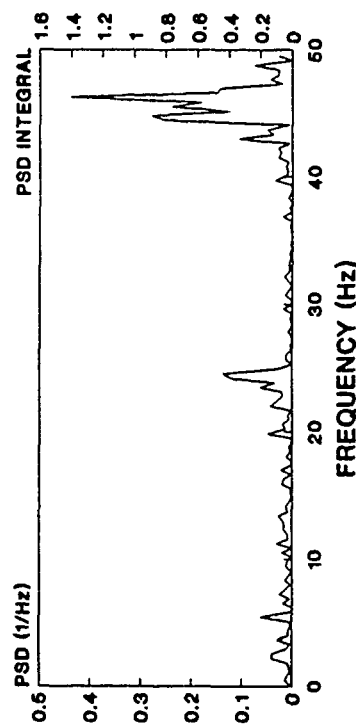
RECTANGLE - HT 8.6 - THETA 46 - AZ 136

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



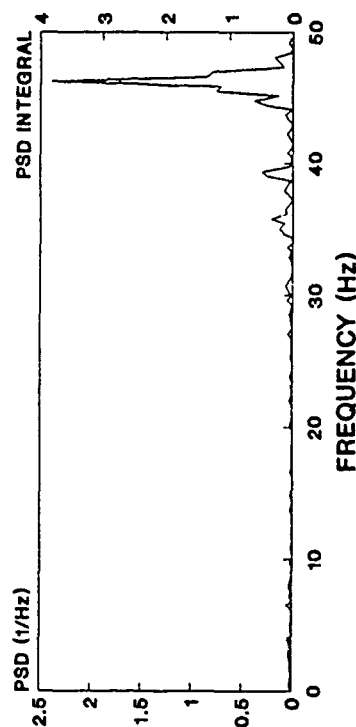
RECTANGLE - HT 8.6 - THETA 46 - AZ 136

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



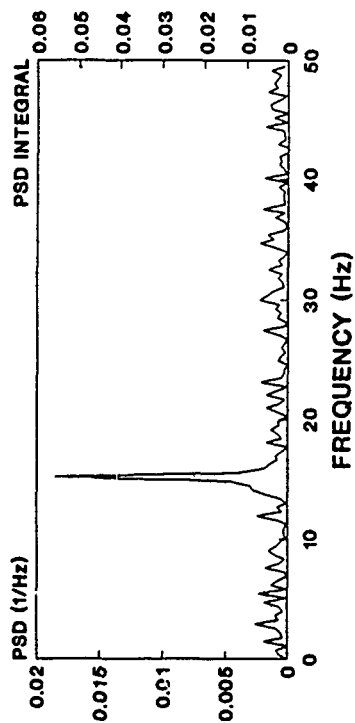
RECTANGLE - HT 8.6 - THETA 46 - AZ 136

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



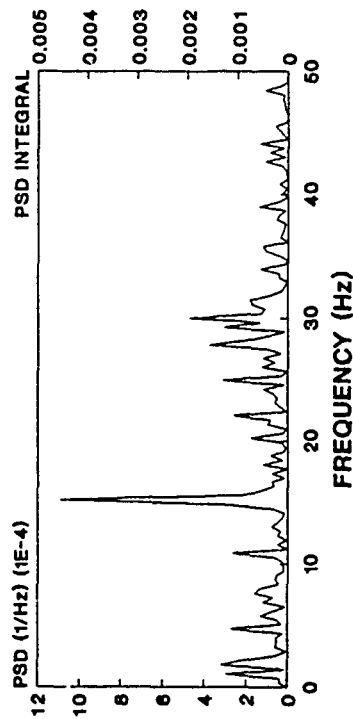
RECTANGLE - HT 8.6 - THETA 46 - AZ 136

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



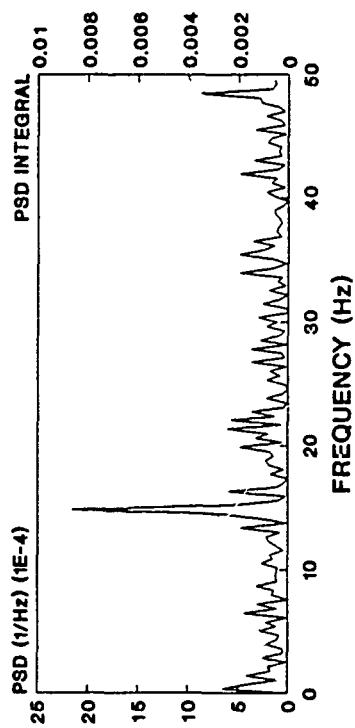
RECTANGLE - HT 8.6 - THETA 45 - AZ 160

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



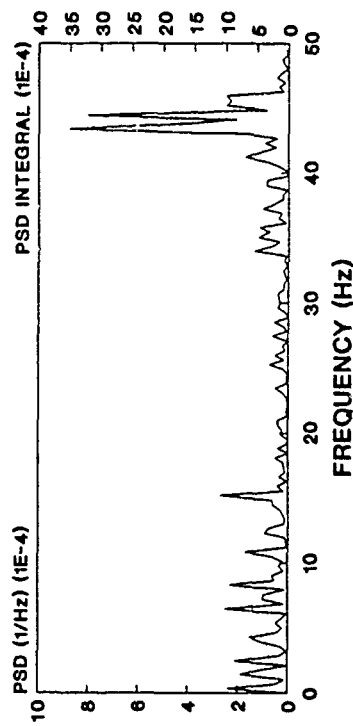
RECTANGLE - HT 8.6 - THETA 45 - AZ 160

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



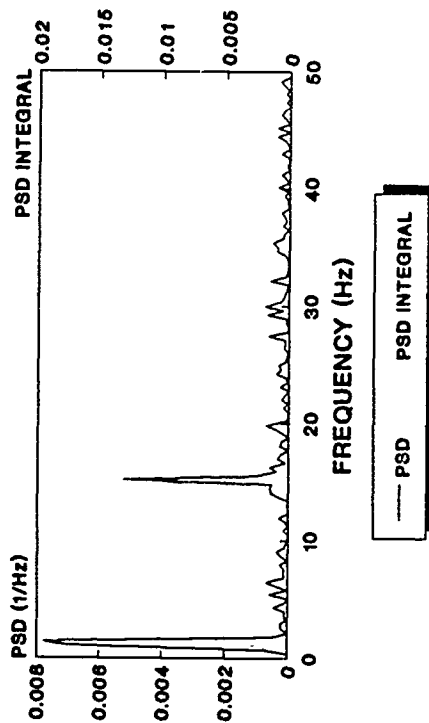
RECTANGLE - HT 8.6 - THETA 45 - AZ 160

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



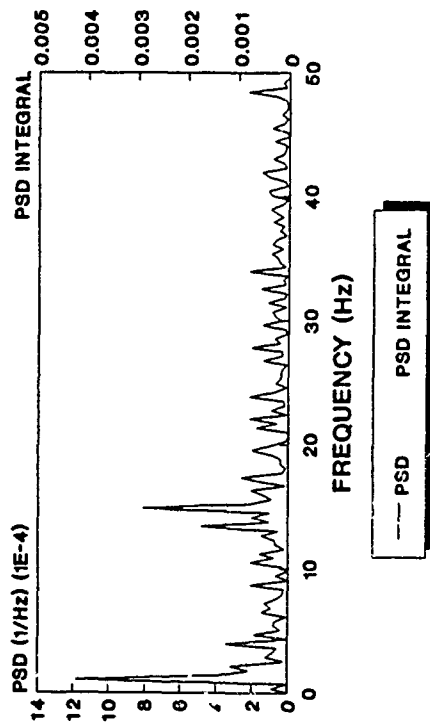
RECTANGLE - HT 8.6 - THETA 45 - AZ 160

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



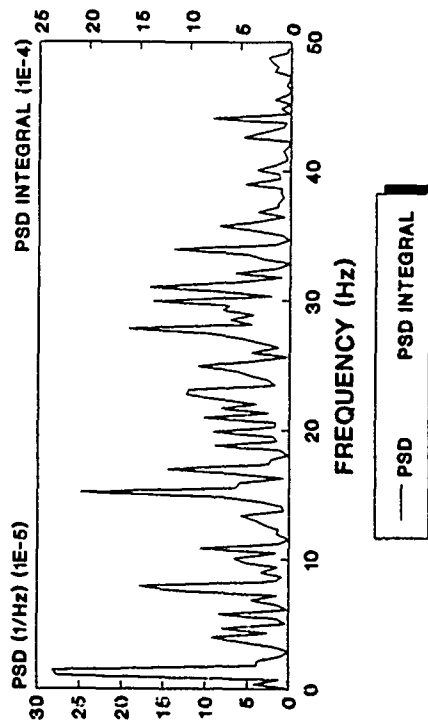
RECTANGLE - HT 8.5 - THETA 45 - AZ 160

MOMENT COEFF - NORMAL 30 FT/SEC NOMINAL



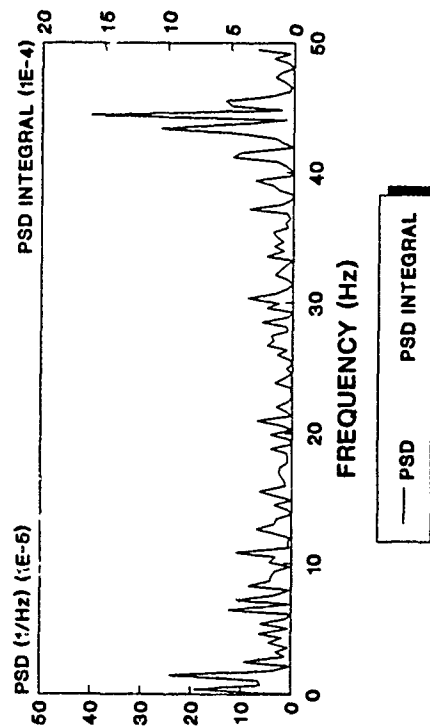
RECTANGLE - HT 8.5 - THETA 45 - AZ 160

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



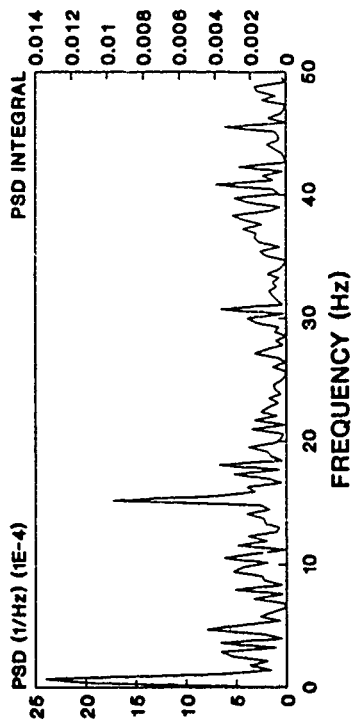
RECTANGLE - HT 8.5 - THETA 45 - AZ 160

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.5 - THETA 45 - AZ 160

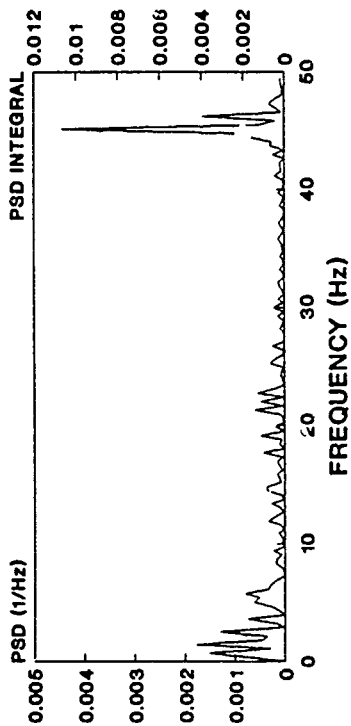
FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 150

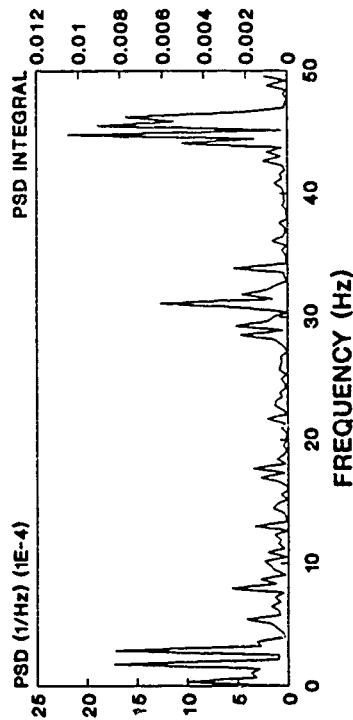
FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 150

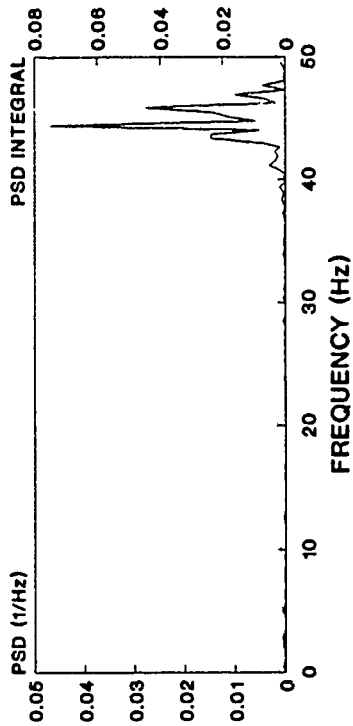
FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



— PSD PSD INTEGRAL

RECTANGLE - HT 8.5 - THETA 45 - AZ 150

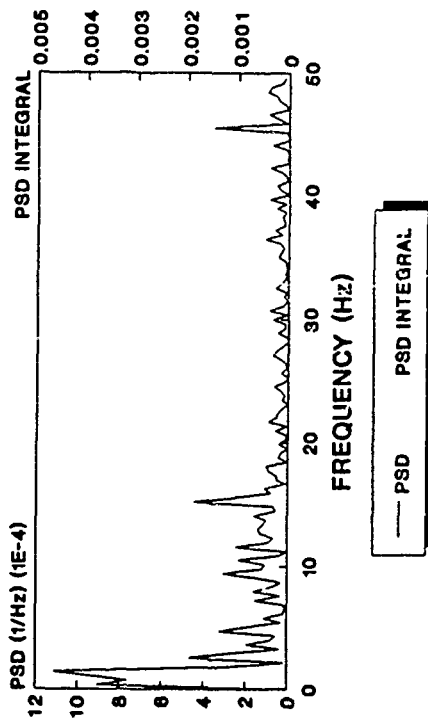
FORCE COEFF - LATERAL 180 FT/SEC NOMINAL



— PSD PSD INTEGRAL

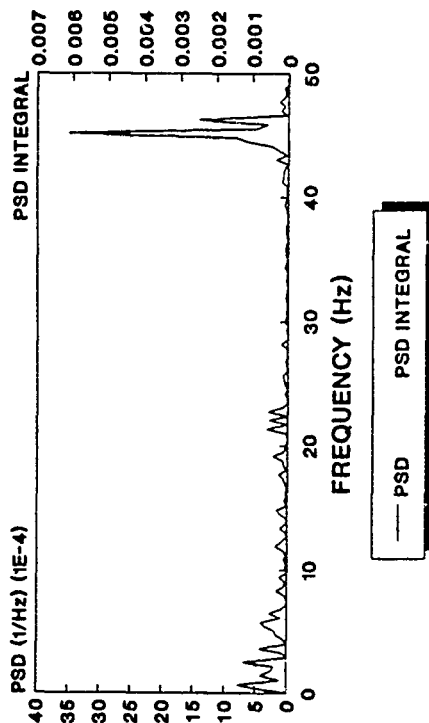
RECTANGLE - HT 8.5 - THETA 45 - AZ 150

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



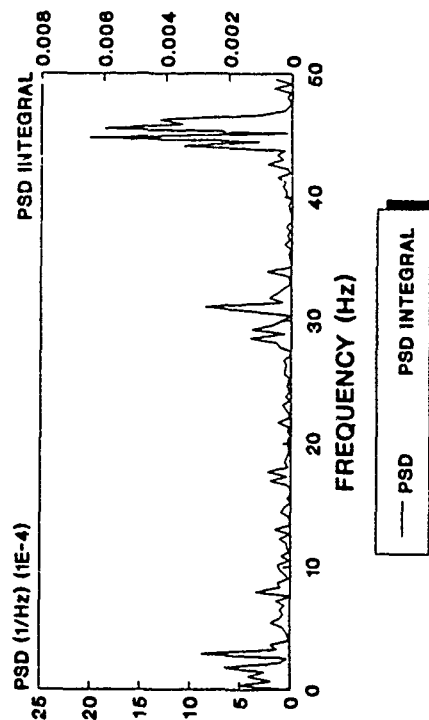
RECTANGLE - HT 8.6 - THETA 45 - AZ 150

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



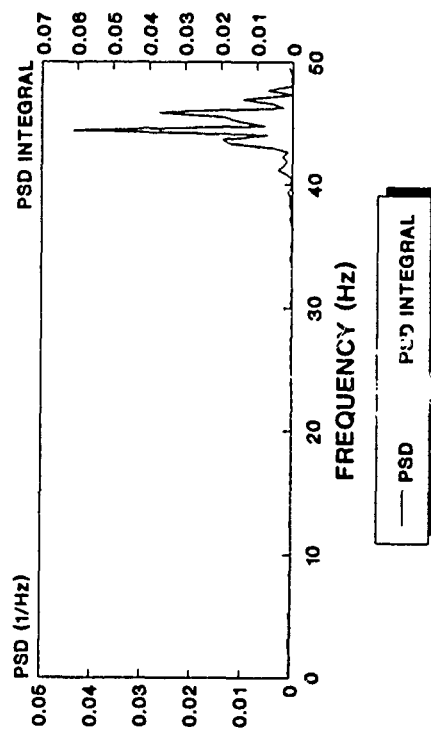
RECTANGLE - HT 8.6 - THETA 45 - AZ 150

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



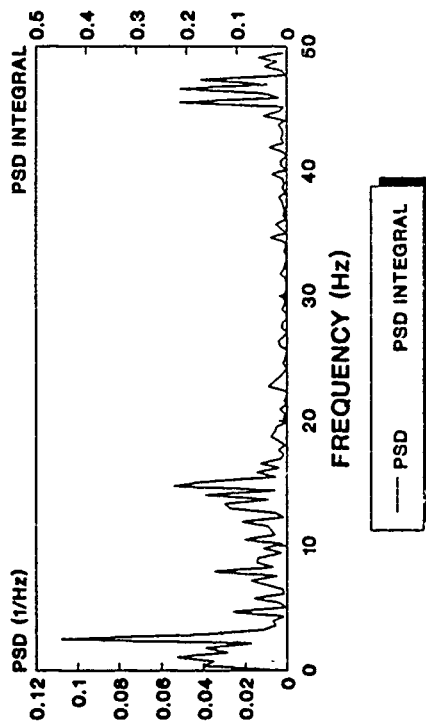
RECTANGLE - HT 8.6 - THETA 45 - AZ 150

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



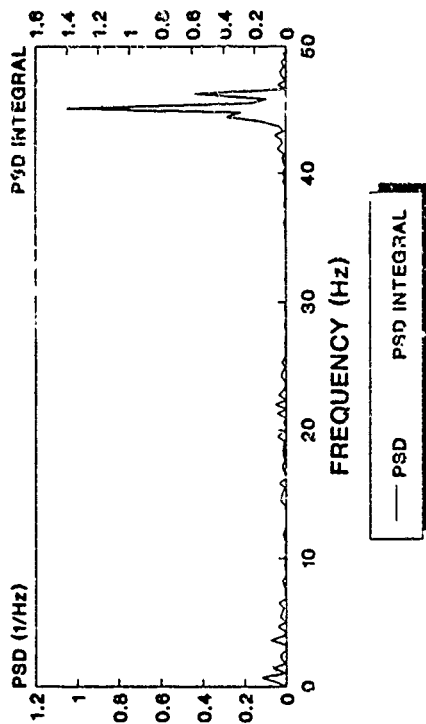
RECTANGLE - HT 8.6 - THETA 45 - AZ 150

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



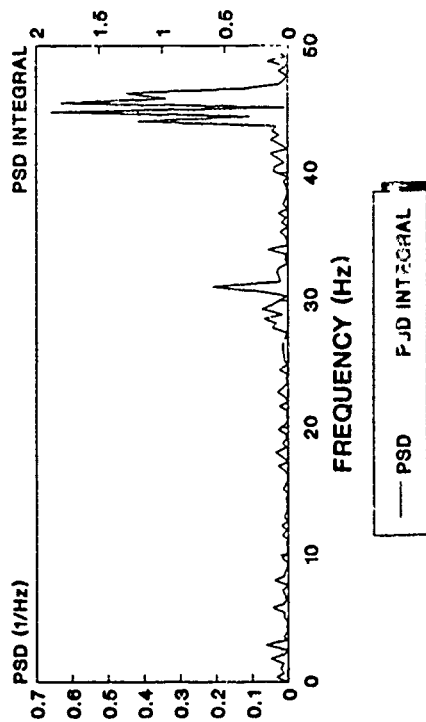
RECTANGLE - HT 8.6 - THETA 45 - AZ 150

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



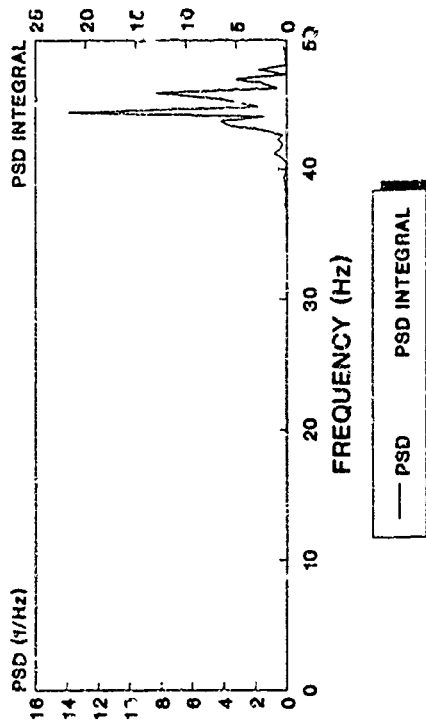
RECTANGLE - HT 8.6 - THETA 45 - AZ 150

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



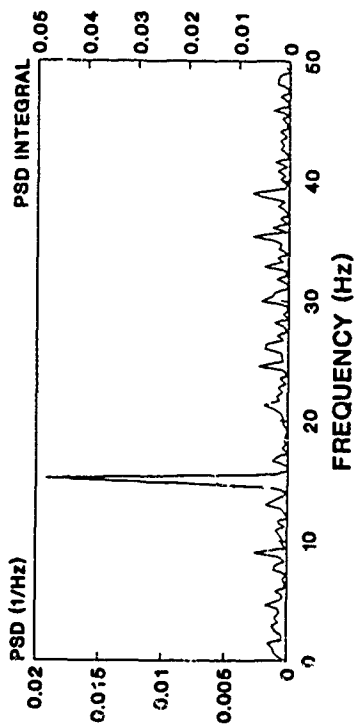
RECTANGLE - HT 8.6 - THETA 45 - AZ 150

MOMENT COEFF - ROLL 150 FT/SEC NOMINAL



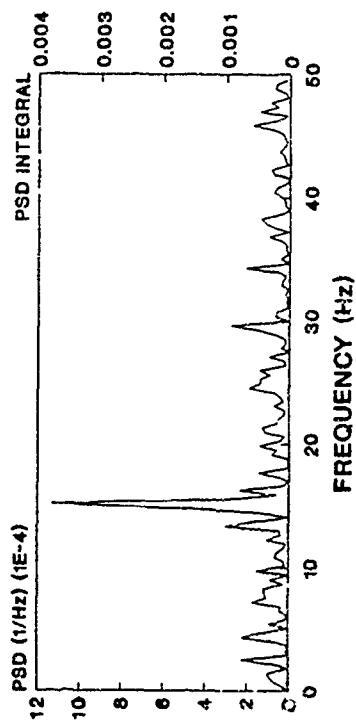
RECTANGLE - HT 8.6 - THETA 45 - AZ 150

FORCE COEFF - NORMAL 60 FT/SEC NOMINAL



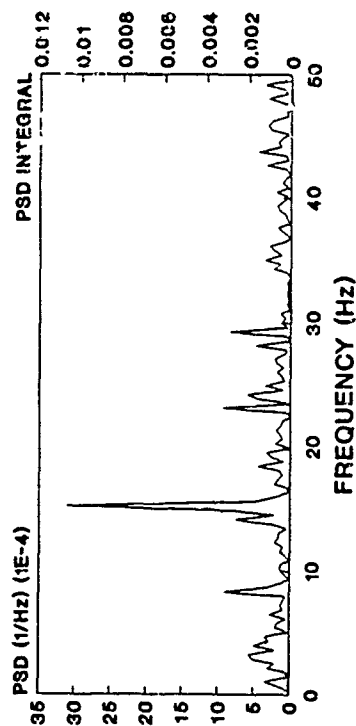
RECTANGLE - HT 8.5 - THETA 45 - AZ 180

FORCE COEFF - NORMAL 120 FT/SEC NOMINAL



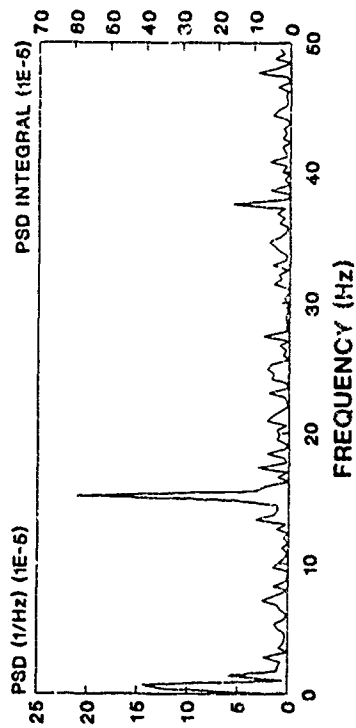
RECTANGLE - HT 8.5 - THETA 45 - AZ 180

FORCE COEFF - NORMAL 90 FT/SEC NOMINAL



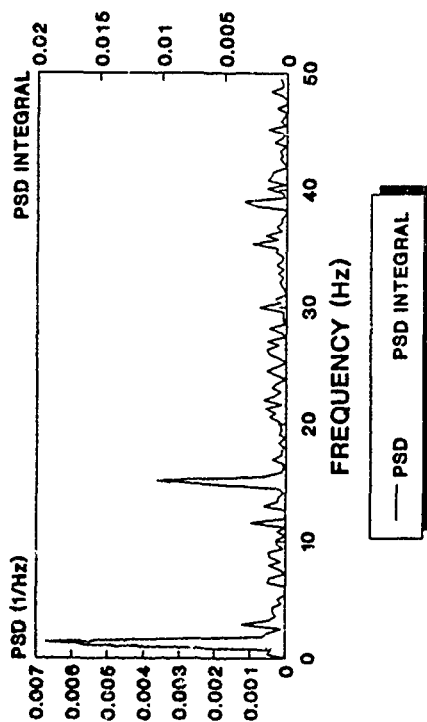
RECTANGLE - HT 8.5 - THETA 45 - AZ 180

FORCE COEFF - NORMAL 180 FT/SEC NOMINAL



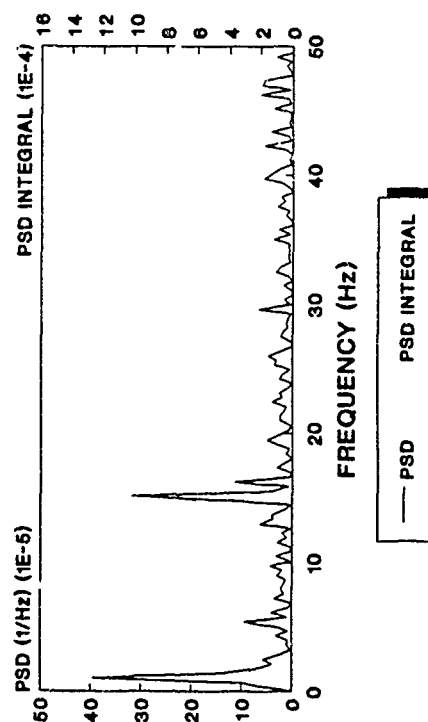
RECTANGLE - HT 8.5 - THETA 45 - AZ 180

MOMENT COEFF - NORMAL 60 FT/SEC NOMINAL



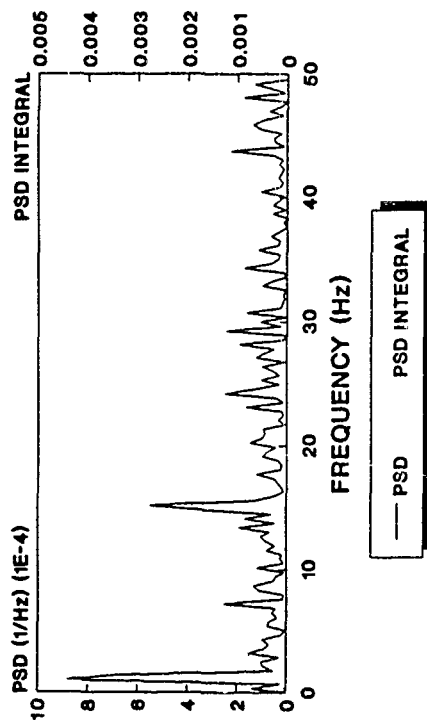
RECTANGLE - HT 8.6 - THETA 46 - AZ 180

MOMENT COEFF - NORMAL 120 FT/SEC NOMINAL



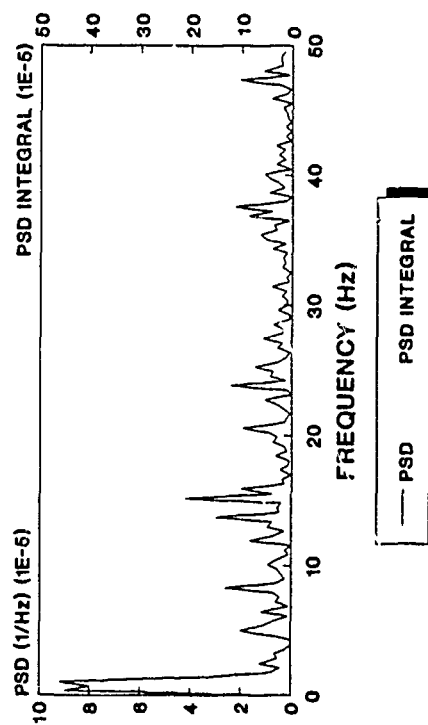
RECTANGLE - HT 8.6 - THETA 46 - AZ 180

MOMENT COEFF - NORMAL 90 FT/SEC NOMINAL



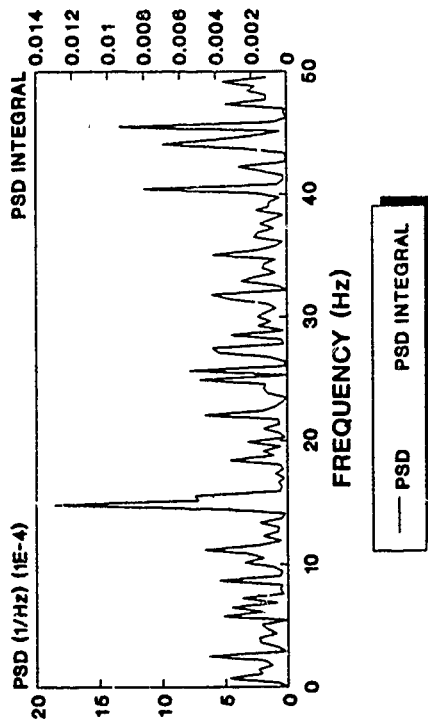
RECTANGLE - HT 8.6 - THETA 46 - AZ 180

MOMENT COEFF - NORMAL 180 FT/SEC NOMINAL



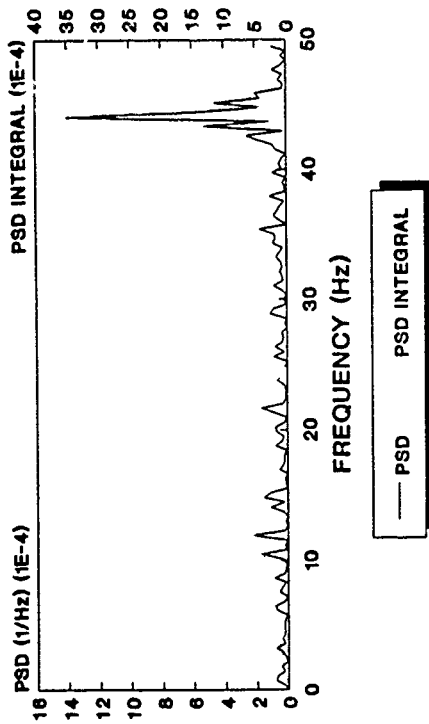
RECTANGLE - HT 8.6 - THETA 46 - AZ 180

FORCE COEFF - LATERAL 60 FT/SEC NOMINAL



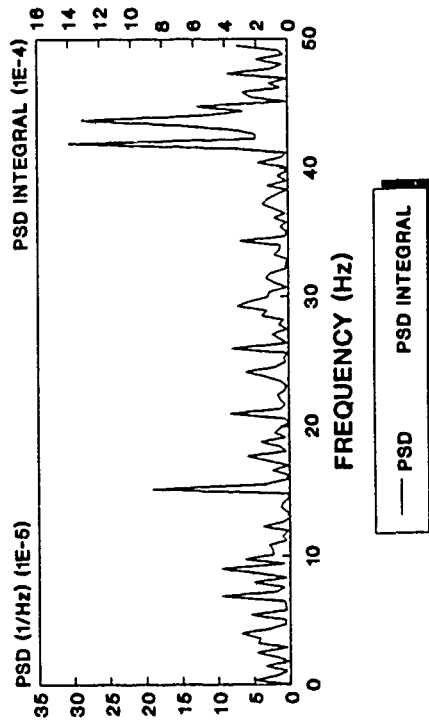
RECTANGLE - HT 8.6 - THETA 45 - AZ 180

FORCE COEFF - LATERAL 90 FT/SEC NOMINAL



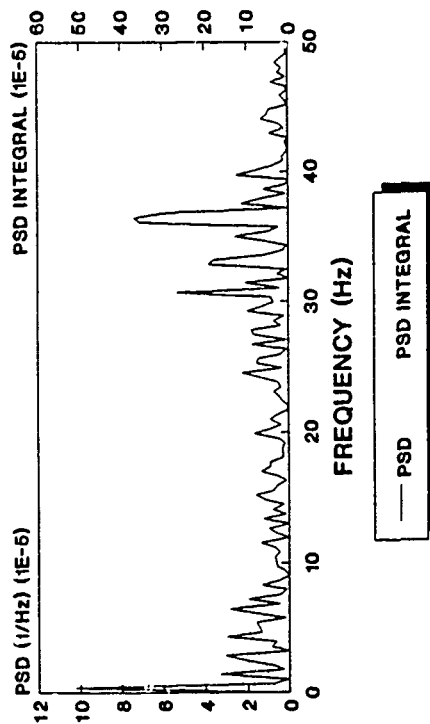
RECTANGLE - HT 8.6 - THETA 45 - AZ 180

FORCE COEFF - LATERAL 120 FT/SEC NOMINAL



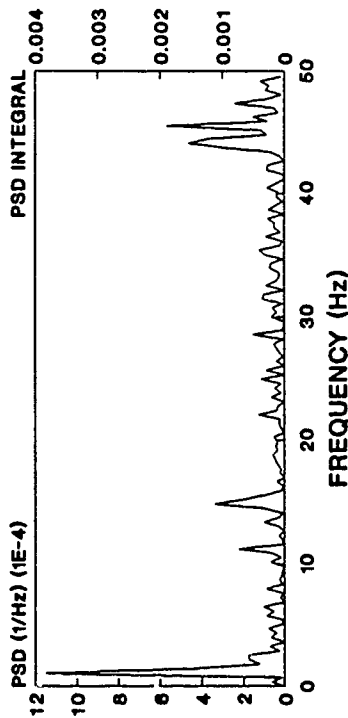
RECTANGLE - HT 8.6 - THETA 45 - AZ 180

FORCE COEFF - LATERAL 150 FT/SEC NOMINAL



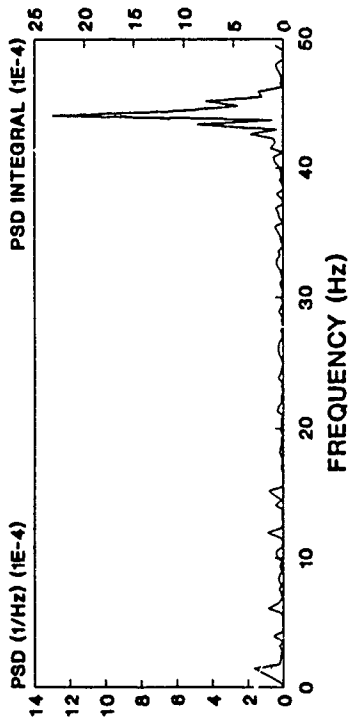
RECTANGLE - HT 8.6 - THETA 45 - AZ 180

MOMENT COEFF - LATERAL 60 FT/SEC NOMINAL



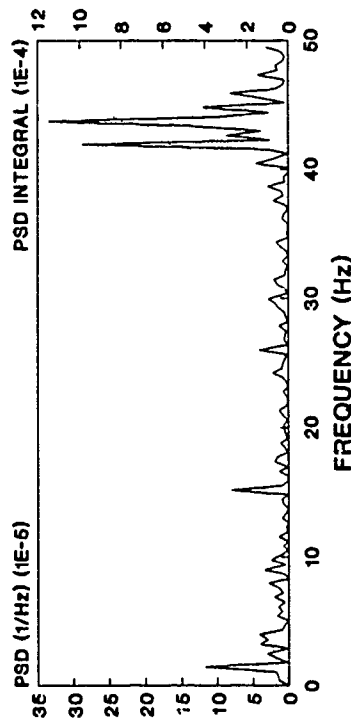
RECTANGLE - HT 8.5 - THETA 45 - AZ 180

MOMENT COEFF - LATERAL 90 FT/SEC NOMINAL



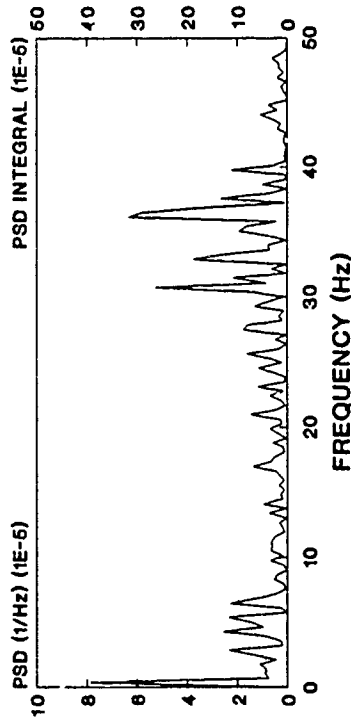
RECTANGLE - HT 8.5 - THETA 45 - AZ 180

MOMENT COEFF - LATERAL 120 FT/SEC NOMINAL



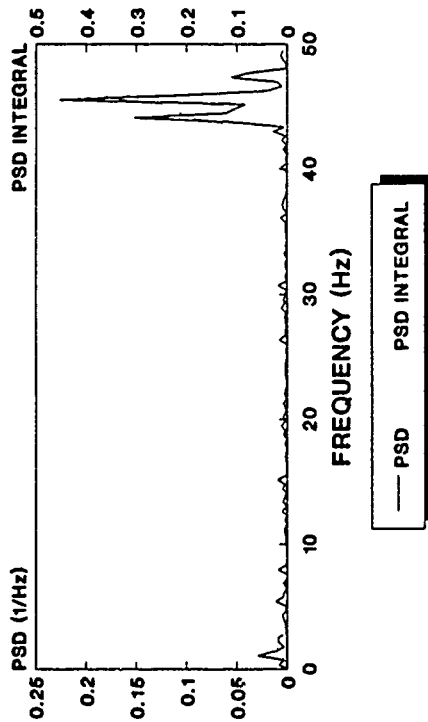
RECTANGLE - HT 8.5 - THETA 45 - AZ 180

MOMENT COEFF - LATERAL 180 FT/SEC NOMINAL



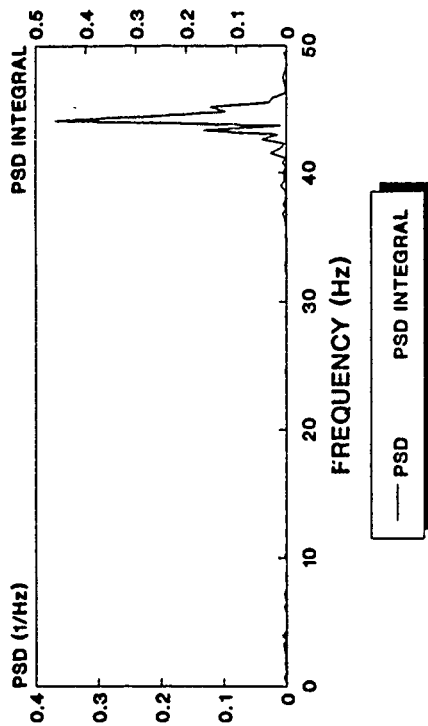
RECTANGLE - HT 8.5 - THETA 45 - AZ 180

MOMENT COEFF - ROLL 60 FT/SEC NOMINAL



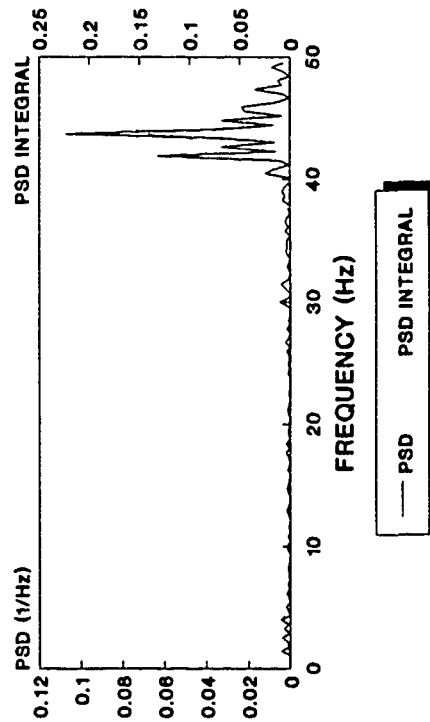
RECTANGLE - HT 8.6 - THETA 45 - AZ 180

MOMENT COEFF - ROLL 90 FT/SEC NOMINAL



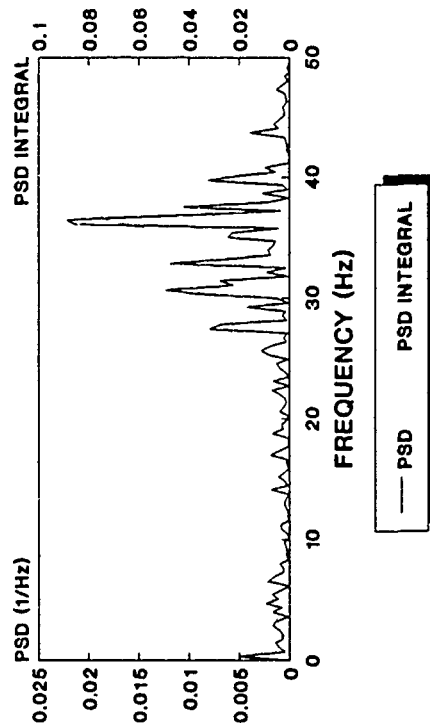
RECTANGLE - HT 8.6 - THETA 45 - AZ 180

MOMENT COEFF - ROLL 120 FT/SEC NOMINAL



RECTANGLE - HT 8.6 - THETA 45 - AZ 180

MOMENT COEFF - ROLL 180 FT/SEC NOMINAL



RECTANGLE - HT 8.6 - THETA 45 - AZ 180