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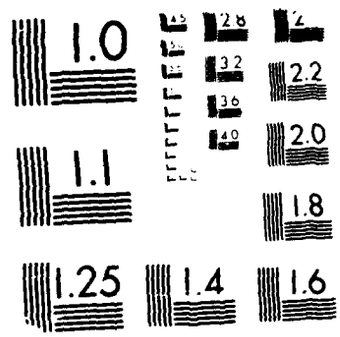

MICROCOPY RESOLUTION TEST CHART

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A statistical analysis of observed oblique sounder lowest observed frequency (LOF) and predicted lowest usable frequency (LUF) was used to assess the accuracy of the PROPHET algorithm QLOF version 2.0. A LOF data base of 1814 LOFs from 29 paths was established for the assessment. The data was screened into subsets to determine the effect of particular paths, universal and local time, sounder type, path length and orientation, season, month, sunspot number, and mid-path latitude. Version 2.0 had a bias of 0.55 MHz low, an rms error of 1.95 MHz, and a correlation coefficient with the observed data of 0.89. The rms error increases with increasing range. A higher residual was noted for the months of July through October. An increase in residual at mid-latitude was noted. Reasons for these errors are given. A modification to the absorption index term which determines the latitudinal and seasonal variation is suggested.

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LUF MODEL UNCERTAINTY ASSESSMENT

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