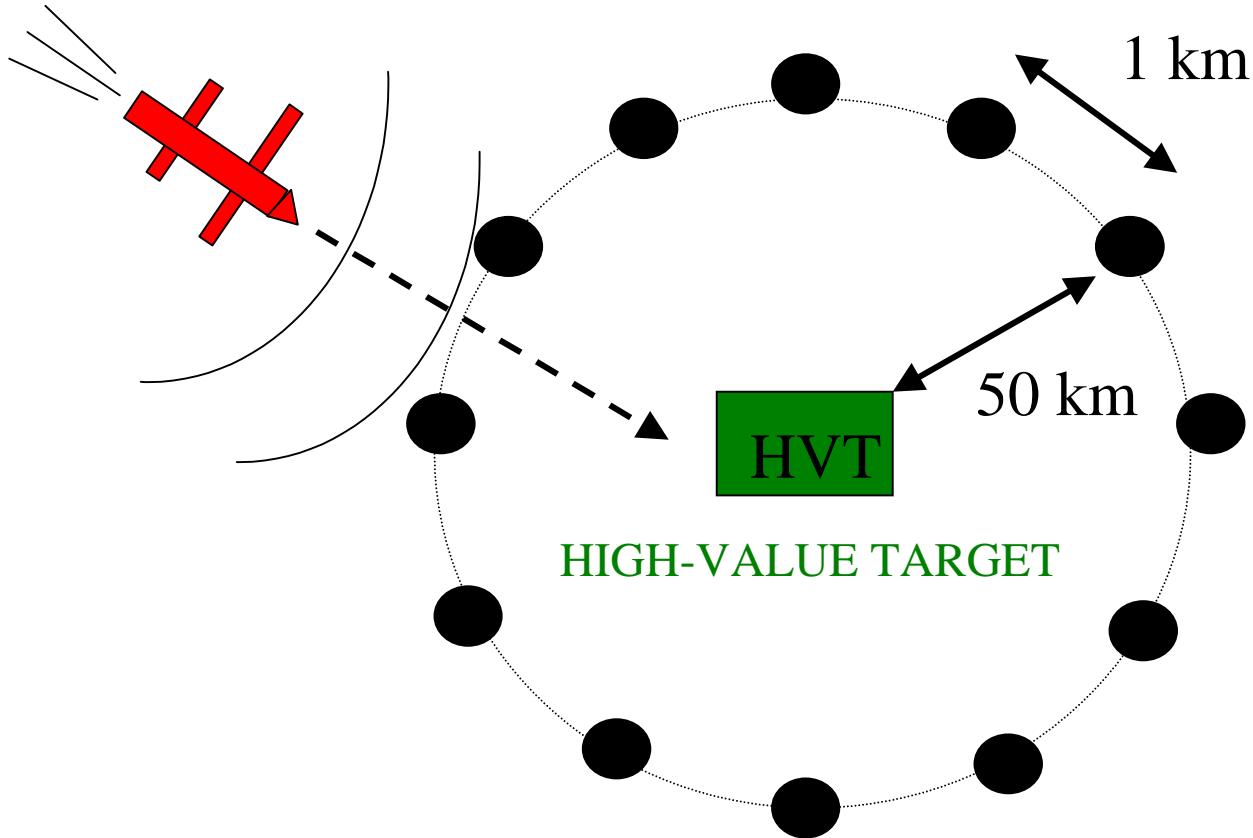




The University of  
Mississippi

# ACOUSTIC CRUISE MISSILE DETECTION: SYSTEM CONCEPT



“ACOUSTIC FENCE”  
“ACOUSTIC SENTRY”  
“ACOUSTIC PICKET”

# Report Documentation Page

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# TECHNICAL ISSUES

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**FY99:**

- **SIGNAL TO NOISE RATIO  
MUST BE SOLID**

**FY00:**

- **AUTOMATED UNALERTED  
DETECTION MUST BE RELIABLE**



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# ON-GOING ACOUSTIC ANALYSIS



- RAW RECEIVED  
SIGNAL LEVEL (RL)



- TRANSMISSION LOSS (TL)
- SOURCE LEVEL (SL)

$$RL = SL - TL \quad SL = RL + TL$$

- RAW NOISE LEVEL



- SIGNAL TO NOISE RATIO (SNR)



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# DAY/NIGHT PROPAGATION

