

BISTATIC SCATTERING DATA BASE

QUARTERLY STATUS REPORT

for the period

15 November 1978 - 28 February 1979

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TECHNICAL

Precision scale models of the three missiles of interest for this study are now available. The models are all constructed from brass tubing and sheet and range in scale sizes from 1:12 to 1:200.

A pulsed X-band measurement system has been developed and assembled and is ready for use as soon as weather conditions permit measurements on our outdoor range. The pulse width is variable from 10 to 100 ns and will permit the background to be gated out. Since we have not yet had the chance to check the system out, it was felt prudent to obtain some bistatic data in our anechoic chamber to serve as a check on the outdoor measurements.

The 15 inch model of missile #1 has been measured at 16 GHz in the anechoic chamber using a cw system. Data have been obtained for a bistatic angle of 45° during a complete rotation of the missile using vertical and horizontal polarizations. To get a good feeling for the effect of missile roll, a variety of roll angles was considered. The patterns were calibrated using a sphere.