THE UNIVERSITY OF MICHIGAN RADIATION LABORATORY

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Air Force Avionics Laboratory
Air Force Systems Command
4950 Test Wing (Technical)
ATTENTION: AFAL-WRP
Wright-Patterson AFB, Ohio 45433

SUBJECT	Monthly Progress Letter No. 8
PERIOD COVERED	15 October - 15 November 1973
CONTRACT NR, PROJECT and TITLE	F33615-73-C-1174, 7633 "Non-Specular Radar Cross Section Study"
CONTRACTING OFFICER	George E. Himes
REPORT SUBMITTED BY	Thomas B.A. Senior and Eugene F. Knott

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This is the eighth monthly progress letter on Contract F33615-73-C-1174 and covers the period 15 October - 15 November 1973.

Work has continued during this reporting period on a generalized computer program which includes magnetic and electric resistive sheets as well as a surface boundary condition. It has previously been referred to as an extension of program TWOD, but it is in truth a completely new program. It is currently in the final stages of debugging and a source deck will be sent to AFAL during the next reporting period for final testing.

The program is based on the integral equations derived and presented in our first Interim Engineering Report. A draft of this report, which contains experimental comparisons with computed results in addition to theoretical work, has been forwarded to AFAL for approval. In addition, a memorandum detailing the results of a study of the application of resistive sheets to edged bodies has also been submitted.

In the meantime, more data have been generated via program RISK and an analysis of the data is currently underway. These data show the effects of using multiple sheets, more rapidly decaying resistance distributions, higher values of leading edge resistance and the fairing of the cylinder itself to smooth out the junction effect. Our efforts will be bent in the coming weeks toward reducing the width of sheet necessary to achieve a given cross section reduction based on these recent runs.