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ELECTRICALLY SMALL ANTENNAS

The Ohio State University

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ElectroScience Laboratory

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BRIEF OUTLINE OF RESEARCH FINDINGS

This summary describes the work on ~~ARO Grant Number DAAG29-79-C-0082~~ ^{described on} from 1 July to 31 December 1981. The purpose of this grant is ~~to~~ developing theory and techniques for small antennas mounted on structures, for printed-circuit antennas, and for k-pulse applications.

For the mutual impedance between coplanar microstrip antennas, it was found that the numerical integration technique required some refinement. After the singularity is removed, a significant contribution still comes from the very small region around the singularity. Therefore, careful integration is required in this region, and the payoff is much better agreement with experimental measurements. *Keywords: Antennas*

In future periods, we expect to investigate the self impedance and mutual impedance of microstrip antennas on a conducting circular cylinder. The solution will involve an inverse Fourier transform and a summation of cylindrical wave functions. This work will represent a beginning on the more general problem of conformal microstrip arrays.