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Title *Insertion Phase Delay and Boresight Error Characteristics of Hybrid Shaped Airborne Radome*

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Abstract

The phase distortions due to the complex shape and wall configuration of modern airborne radomes are the primary cause for the increase in the boresight error. In order to obtain an optimum design with minimal boresight error, the insertion phase delay characteristics have to be analyzed for the given radome shape and selected wall configuration. In view of this, a study has been carried out for analyzing the insertion phase delay and boresight error characteristics of constant and variable thickness designs for a cone-ogival airborne radome. Both monolithic half-wave and A-sandwich wall configurations are considered for the present study. The effect of insertion phase delay of cone-ogival radome on its boresight error characteristics is established. The effect of radome paint is also taken into account for the study of insertion phase delay and boresight error characteristics.