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**Title**                      *Electromagnetic Design of a Hybrid Variable Thickness Airborne Radome*

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### **Abstract**

*A novel, A-sandwich hybrid variable thickness radome (hy-VTR) design, based on optimized power reflection, is presented in this paper. The design effectively reduces the undesirable multiple reflections within the radome causing flash lobes and sidelobe level degradations. The electromagnetic performance parameters are evaluated accurately by a 3-D ray-tracing procedure in conjunction with the aperture integration method. The hy-VTR design shows excellent broadband radome performance characteristics. The proposed hy-VTR A-sandwich design compares excellently with the corresponding hybrid constant thickness radome (hy-CTR) designs, and is demonstrated to be a better choice for airborne applications when multiple performance parameters need to be satisfied simultaneously.*