

Abstract Submitted  
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**Design and Analysis of a 60 MHz Antenna Array for DIII-D**<sup>1</sup> P.M. RYAN, F.W. BAITY, R.H. GOULDING, D.A. RASMUSSEN, Oak Ridge National Laboratory, R.I. PINSKER, General Atomics — A long pulse (10s) four-element antenna array design is being developed and evaluated as a possible replacement for the present 285/300 DIII-D ICH array. Each array element will be poloidally segmented to reduce the strap voltage and the electric field in the near-plasma region, with the goal of improving reliability at high power levels. The single frequency (60 MHz) operation will allow the use of an internally self-resonant design, which will reduce the peak voltages in the antenna structure and the unmatched sections of transmission line. The present 285/300 antenna array, which recently had its single-tier, open Faraday shield replaced with its original double-tier, opaque Faraday shield, is also being modeled with the Microwave Studio 3D EM code. The modeling results will be used as a reference case for evaluating the new design.

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