

Abstract Submitted
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Eddy Currents in CTH Equilibrium Reconstructions¹ N.A. ROBERDS, J.D. HANSON, M. CIANCIOSA, J. HEBERT, Auburn University — Devices utilizing an ohmic heating transformer induce eddy currents in nearby objects that are electrically conductive. These eddy currents generate external magnetic fields which must be included in accurate free-boundary equilibrium reconstructions. The Compact Toroidal Hybrid (CTH) has, in addition to the metallic vacuum vessel, ten aluminum helical coil frames which surround the vacuum vessel and support the helical coil winding. Princeton Plasma Physics Laboratory has provided us with a model [1] for the spatial distribution of eddy currents within these assemblies. We compare the model computed responses of CTH magnetic diagnostics during a vacuum shot to the measured signals.

[1] A. Zolfaghari, A. Brooks, A. Michaels, J. Hanson, G. Hartwell, PPPL Tech. Report 4814, (2012)

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Nicholas Roberds
Auburn University

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