

Abstract Submitted  
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**GPU-based Computing of RF Propagation**<sup>1</sup> JOHN CARY<sup>2</sup>, University of Colorado, Boulder, CARL BAUER, MARC DURANT, TOM JENKINS, DAVID SMITHE, Tech-X Corporation — Tech-X has applied its GPU computing framework to ICRF propagation. This framework uses finite-difference methods for both modeling the antennas and the linear plasma response. This required developing robust cut-cell meshing including the ability to heal bad surfaces. The curved surfaces of the perfect conductor antennas are modeled by the Dey-Mittra algorithm, which has now been ported to GPUs. The linear-plasma-dielectric algorithm has been improved using the method of triads introduced by Bauer et al [1], and the implementation is underway. This talk will demonstrate the workflow from problem setup to visualization as well as show the results of convergence tests.

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