

Abstract Submitted  
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**Transport Studies of Bean- and Oval-Shaped Plasmas in DIII-D through Gyrokinetic Simulations**<sup>1</sup> R.V. BRAVENEC, F.L. WAELBROECK, University of Texas-Austin, E.A. LAZARUS, Oak Ridge National Laboratory, W. DORLAND, University of Maryland — Bean- and oval-shaped plasmas exhibit qualitative differences in ion transport and extreme differences in electron transport inside the sawtooth inversion radius during sawtooth reheat [1]. Here we attempt to understand this through gyrokinetic simulations. The GS2 code [2] is used because it is able to use actual equilibrium reconstructions necessary for the bean-shaped plasma. Both linear and nonlinear simulations will be presented (maximum growth rates and diffusivities, respectively). Of particular interest are the saturation of the ion temperature ramp in the bean discharges and the surprisingly low, near neoclassical values of the ion diffusivity in the oval discharges.

[1] E.A. Lazarus, et al., Proc. 20th IAEA Fusion Energy Conf., paper IAEA-CN-116/EX/PS-11.

[2] W.D. Dorland, et al., Phys. Rev. Lett. **85**, 5579 (2000).

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