

Abstract Submitted  
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**Database-driven web interface automating gyrokinetic simulations for validation**<sup>1</sup> D.R. ERNST, MIT — We are developing a web interface to connect plasma microturbulence simulation codes with experimental data. The website automates the preparation of gyrokinetic simulations utilizing plasma profile and magnetic equilibrium data from TRANSP analysis of experiments, read from MDSPLUS over the internet. This database-driven tool saves user sessions, allowing searches of previous simulations, which can be restored to repeat the same analysis for a new discharge. The website includes a multi-tab, multi-frame, publication quality java plotter Webgraph, developed as part of this project. Input files can be uploaded as templates and edited with context-sensitive help. The website creates inputs for GS2 and GYRO using a well-tested and verified back-end, in use for several years for the GS2 code [D. R. Ernst et al., Phys. Plasmas 11(5) 2637 (2004)]. A centralized web site has the advantage that users receive bug fixes instantaneously, while avoiding the duplicated effort of local compilations. Possible extensions to the database to manage run outputs, toward prototyping for the Fusion Simulation Project, are envisioned. Much of the web development utilized support from the DoE National Undergraduate Fellowship program [e.g., A. Suarez and D. R. Ernst, <http://meetings.aps.org/link/BAPS.2005.DPP.GP1.57>.]

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