

**Abstract Submitted for the 52nd Annual Meeting
Division of Plasma Physics
November 8–12, 2010, Chicago, Illinois**

Category Number and Subject:

Theory Experiment

Automated EPED Pedestal Stability Computations Within the IMFIT Framework,* H.E. St. John, L.L. Lao, P.B. Snyder, G.M. Staebler, IMFIT Team, *General Atomics* – The determination of pedestal stability boundaries using a combination of the MHD, transport and stability codes, EFIT, ONETWO/GCNMP, ELITE, and TOQ is a tedious and complex task that is currently performed manually. The IMFIT framework was designed to automate such tasks as much as possible. Here we present the current work on an algorithm for both the IMFIT interface and the modified, mixed (Robin) boundary conditions often required for the transport equations in order to successfully carry out EPED type stability calculations in an autonomous manner. Code interface issues are effectively treated through the development of an IMFIT master state file that allows communication between the necessary physics components. Several applications to DIII-D discharges are presented.

*Work supported by the US Department of Energy under DE-FC02-04ER54698.