

**Abstract Submitted for the 55th Annual Meeting
Division of Plasma Physics
November 11–15, 2013
Denver, Colorado**

Category Number and Subject: 6.20 DIII-D Tokamak

[] Theory [] Experiment

Fast Ion Confinement in High Beta, Steady-State Scenario Plasmas,* W.W. Heidbrink, X. Chen, *UCI*; J.R. Ferron, M.A. Van Zeeland, *General Atomics*; B.A. Grierson, *PPPL*; C.T. Holcomb, *LLNL* – Fast-ion confinement is studied for q_{\min} between 1.2–2.8 in plasmas with normalized beta > 2.6. Fast-ion D-alpha (FIDA), neutron, and neutral-particle diagnostics measure the confined fast ions. Tearing modes and a “sea” of unstable Alfvén eigenmodes (AE) are observed. In preliminary analysis, the degradation in fast-ion confinement increases with q_{\min} ; increased AE activity appears responsible. Predictions of a model that assumes that AE-induced fast-ion transport is stiff are compared with the data.

*Work supported by the US Department of Energy under SC-G903402, DE-FC-02-04ER54698, DE-AC02-09CH11466, and DE-AC52-07NA27344.