

**Abstract Submitted for the 51st Annual Meeting
Division of Plasma Physics
November 2–6, 2009, Atlanta, Georgia**

Global Geodesic Acoustic Modes Driven by Energetic Particles in the DIII-D Tokamak,* R. Nazikian, G.Y. Fu, N.N. Gorelenkov, G.J. Kramer, *PPPL*; M.E. Austin, H.L. Berk, *U. Texas-Austin*; W.W. Heidbrink, *UCI*; G.R. McKee, M.W. Shafer, *U. Wisc.-Madison*; E.J. Strait, M.A. Van Zeeland, *GA* — Intense axisymmetric oscillations driven by suprathermal passing ions injected in the direction counter to the toroidal plasma current are observed in the DIII-D tokamak. Strong bursting and frequency chirping coincide with large (10-15%) drops in the neutron emission, suggesting that the mode is very effective in displacing beam ions from the plasma core. BES measurements of density fluctuations indicate an outward propagating mode of large radial extent. The large density to temperature ratio of the mode confirms a dominant compressional contribution to the pressure perturbation, indicative of the Geodesic Acoustic Mode (GAM).

*Work supported by the US DOE under DE-AC02-09CH11466, DE-FG03-97ER54415, SC-G903402, DE-FG02-89ER53296, DE-FG02-08ER54999, and DE-FC02-04ER54698.