Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

Design and Initial Development of the Divertor Erosion and Vapor shielding eXperiment (DEVeX) TRAVIS GRAY, PATRICK MANGAN, T. PATRICK WALSH, DAVID RUZIC, Universiy of Illinois at Urbana-Champaign, AHMED HASSANEIN, Argonne National Laboratory, UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN COLLABORATION, ARGONNE NATIONAL LABORATORY COLLABORATION — The focus of the DEVeX project is to experimentally measure the erosion of Plasma Facing Components (PFCs) under pulsed plasma loads indicative of a disruption in a large fusion device. DEVeX is planned to produce plasmas of similar density and temperature to disruptions in fusion machines like those reported previously [P.D. Rockett, et al. Jour. Nucl. Mat. Vol. 220-222. (April 1995) 785-789.]. DEVeX will also provide a suite of diagnostics to analyze both the incident plasma flux and the erosion mechanisms during the disruption event. The design of the DEVeX plasma source will be presented in addition to the models used to predict the source behavior. Likewise, the planned diagnostics and their responses to predicted erosion rates [A. Hassanein. Fusion Eng. and Design. Vol. 60. (2002) 527-546.] will be shown. This work is supported by ALPS/DOE Contract: DEFG02-99ER54515.

Travis Gray
Universiy of Illinois at Urbana-Champaign

Date submitted: 19 Jul 2006 Electronic form version 1.4