

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Performance of 200 kW Diagnostic Neutral Beam E. SCHARTMAN, E.L. FOLEY, F. LEVINTON, Nova Photonics, Inc, J. KWAN, K.N. LEUNG, R. WELLS, Y. WU, H. VAINIONPAA, Lawrence Berkeley National Laboratory — The interaction of neutral beam atoms with a magnetized plasma provides diagnostic access to the interiors of fusion experiments. Measurable parameters include ion temperature and velocity, density fluctuations and also local magnetic field direction. Nova Photonics, Inc and Lawrence Berkeley National Laboratory are developing a diagnostic neutral beam for use in fusion experiments which lack neutral heating beams, or on which a heating beam is not suitable for diagnostics. Our beam was designed to produce a 1 s duration, 5 x 8 cm elliptical cross section hydrogen beam at energies up to 40 kV and up to 5 A current. Details of the beam performance at 40 kV operation will be presented. The accelerator grids will be re-gapped to operate at 15-20 kV for deployment on the Lithium Tokamak Experiment. Simulations of the re-gapped grids and initial performance will be presented. This work is supported by the U.S. DOE under grant DE-FG02-05ER86256.

Ethan Schartman
Nova Photonics, Inc

Date submitted: 16 Jul 2010

Electronic form version 1.4