Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Acceleration of Deuteron Ions from Thin Foil Targets in the Absence of Contaminant Layer Protons and Carbon[1] J.T. MORRISON, C. WILLIS, P. BELENCOURT, E. MCCARY, R. DASKALOVA, E. CHOWDHARY, M. STORM, K. AKLI, L.V. WOERKOM, R.R. FREEMAN, The Ohio State University, S.H. FELDMAN, G. DYER, A. BERNSTE, T. DITMIRE, The University of Texas at Austin — We will present the results of a recent deuteron ion acceleration experiment in which the proton and carbon ion acceleration was almost entirely suppressed. The peak deuteron energy was 3.1 MeV. The deuteron ions were accelerated from the rear surface of a laser-irradiated thin foil by the target-normal-sheath-acceleration mechanism. These ions may be used to bombard a deuteron-rich secondary target to liberate 2.45 MeV neutrons through D(d,n)He^3 fusion. The experiments were carried out at the SCARLET laser facility at The Ohio State University and the GHOST laser at University of Texas.

[1]Work supported by the Defense Threat Reduction Agency under grant HDTRA1-08-1-0018 and partially funded by the Air Force Office of Scientific Research grant FA9550-07-1-0088.

John Morrison
The Ohio State University

Date submitted: 26 Jul 2011 Electronic form version 1.4