

Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Visible/IR Observations of the Poloidal Limiter in W7-X¹ G.A. WURDEN, Los Alamos Natl Lab, C. BIEDERMANN, M.W. JAKUBOWSKI, S.A. BOZHENKOV, Max-Planck Institute for Plasma Physics, Greifswald — We have prepared a high resolution view of the poloidal graphite limiter in W7-X for the first operational period in 2015. Magnetically shielded visible (400-700 nm) and mid-band infrared (3-5 micron) cameras share a nearly identical view through a large sapphire window mounted on the AEA30 port. Both systems achieve sub-mm spatial resolution and 10 millisecond time resolution while viewing three of the limiter tiles. We will compare heat flux patterns actually observed on the limiter with numerical predictions [1] corresponding to different plasma diffusivities.

[1] S. A. Bozhenkov, F. Effenberg, et al, “Limiter for the early operation phase of W7-X,” 41ST EPS Conference on Plasma Physics, P1.080, Berlin, June 23-27, 2014.

¹Supported by US DOE Fusion Energy Sciences Office

Glen Wurden
Los Alamos Natl Lab

Date submitted: 22 Jul 2015

Electronic form version 1.4