

Impurity Spectroscopy and Wall Conditioning on PEGASUS¹ D.J. BATTAGLIA, R.J. FONCK, M.P. KOZAR, M.L. REINKE, G.R. WINZ, University of Wisconsin-Madison — Impurity-induced radiation has significant influence on the V-s limited PEGASUS experiment, and efforts are underway to control and measure the impurities therein. Titanium gettering, helium glow discharge and cryogenic pumping are used for wall conditioning. Initial low power operations are characterized by high deuterium pump speeds up to 35000 l/s and low gas recycling rates. Impurity species mix is estimated from time-resolved VUV spectra using a SPRED multichannel spectrometer. A fast-scanning 1-D CCD detector array provides a full 10-110 nm spectrum every 0.2 ms. Quantitative estimates of Z_{eff} and the shape of the $n_e(R,t)$ profile will be pursued with a tangentially viewing visible bremsstrahlung (VB) array. This system uses a slow-scan CCD camera to provide time-resolved VB spatial profiles using on-chip line transfer of the exposed spectrum to a masked region during the shot. Oxygen is expected to be the dominant impurity, and XUV diodes with multi-layer Ross filters are used to isolate the He-like and H-like oxygen line emissions for central impurity monitors.

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Prefer Oral Session
 Prefer Poster Session

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\begin{document}
\Title{Impurity Spectroscopy and Wall Conditioning on {\sc Pegasus}}
\titlenote{Work supported by U.S. D.O.E. Grant DE-FG02-96ER54375.}
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\begin{abstract}
Impurity-induced radiation has significant influence on the
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underway to control and measure the impurities therein.
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