

Broadband EUV survey spectrometer for short-timescale experiments (abstract)^{a)}

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A fast and inexpensive spectrometer system has been developed to record EUV impurity spectra in the Madison Symmetric Torus (MST) Reversed-Field Pinch (RFP). To simplify the vacuum system, light is passed out of the spectrometer's vacuum to the detector using a sodium-salicylate-coated fiber-optic coupler. This coupler is positioned such that the focal field is nearly flat over its aperture, thus minimizing defocusing at the edges of the detection plane. The system's detector is a microchannel-plate-intensified, linear, self-scanning photodiode array. The 1024-pixel array covers a bandwidth of over 80 nm and is read out once every ms. The readout, which is four times faster than the manufacturer's maximum rating, is fully synchronized to the experiment using a locally designed control circuit. © 1995 American Institute of Physics.

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