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Theory Experiment

New Optics for the Soft X-ray Diagnostic on DIII-D,* M.J. Lanctot, *Columbia U.*, E.M. Hollmann, UCSD, R.K. Fisher, S. Pidcoe, D.A. Taussig, *GA* – The optics for the soft x-ray poloidal array on the DIII-D tokamak have been upgraded to include a new set of 64 photodiodes and an adjustable filter wheel. The wheel includes three titanium-coated diamond filters for measuring soft x-ray emission and two unfiltered settings for fast bolometry. We present the specifics of the design, including filter transmission functions, and techniques used to reduce pickup noise from nearby coils. Recent results from the revamped system will be analyzed with a focus toward categorizing MHD instabilities observed in DIII-D plasmas.

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