Abstract Submitted
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Radiation asymmetry in gas jet mitigated disruptions on Alcator C-Mod[1] G.M. OLYNYK, R.S. GRANETZ, M.L. REINKE, D.G. WHYTE, I.H. HUTCHINSON, MIT Plasma Science & Fusion Center, Cambridge, MA 02139 — The radiated energy during the thermal quench (TQ) of gas jet mitigated disruptions on Alcator C-Mod is toroidally asymmetric, and the degree of asymmetry correlates with the growth rate of low-n MHD modes during the pre-TQ phase of the disruption [Olynyk et al., *Bull. Am. Phys. Soc.* **55**(15), TP9.00071]. In order to investigate the spatial and temporal structure of the asymmetry, a toroidal array of ultraviolet photodiodes (serving as solid-state bolometers) has been designed and installed. Details of the design and implementation of the diagnostic are presented. The new diagnostic system is used in concert with existing poloidal magnetic field pickup coils to investigate in more detail the role of MHD activity in triggering the TQ. Results from gas jet disruption mitigation experiments are presented. The implications for the ITER disruption mitigation system are discussed.

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