

Abstract Submitted
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PIN Diode and Amplifier Array for Imaging Transient X-ray Bursts From Suprathermal Particles YI ZHOU, PAUL BELLAN, Caltech — Transient 6 keV x-ray bursts having a duration of about one microsecond are detected in the Caltech jet experiment [1]. Since the plasma is both cold (2 eV) and highly collisional (mean free path about one micron in a plasma having a spatial scale of 10s of cm), x-rays are caused by suprathermal particles with at least 6 keV energy. An 80-channel array of PIN diodes and amplifiers for a fast coded-aperture imaging system is being developed to aid imaging x-ray emissions from these energetic particles. The transient x-rays have been detected successfully by a prototype channel of the array with single 6 keV photon sensitivity. A 4-channel coded-aperture camera based on the prototype channel is currently being tested. [1] R. S. Marshall, M. J. Flynn and P. M. Bellan, *Physics of Plasmas* 25 (2018) Art. No. 112101

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