

## Commissioning of Z-pinch X-ray Energy, Power, Spectrum and Imaging Diagnostics on the Upgraded Z Facility\*

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**Abstract:** Initial Z-pinch experiments have been performed on the newly refurbished Z facility at Sandia National Laboratories. We have re-established two upgraded z-pinch diagnostic lines of sight. The first incorporates ns-response-bolometers, a transmission grating spectrometer, filtered x-ray diodes, the Total-Energy-and-Power diagnostic, and filtered Photo-conducting diode detectors to measure the x-ray energy, power and spectrum of the Z-pinches. The second line of sight incorporates improved x-ray pinhole framing camera imaging diagnostics. Two-frame bent crystal x-ray radiography at 6.151 keV using the Z-Beamlet laser was also demonstrated on these initial experiments. Experimental Z-pinch parameters, diagnostic setups, sample data, and data analysis techniques will be presented.

\*Sandia is a multi-program laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the US DOE's National Nuclear Security Administration under contract DE-AC04-94AL85000.