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## 2.52 Characterization of Shaped Bragg Crystal Assemblies for Narrowband X-Ray Imaging

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X-ray imaging using shaped crystals in Bragg reflection is a powerful technique used in high-energy-density physics experiments. The characterization of these crystal assemblies with conventional x-ray sources is very difficult because of the required angular resolution of the order of  $\sim 10$   $\mu$ rad and the narrow bandwidth of the crystal. The 10-J, 1-ps Multi-Terawatt (MTW) laser at the Laboratory for Laser Energetics was used to characterize a set of Bragg crystal assemblies. The small spot size of the order of 10  $\mu$ m and the high power ( $> 10^{18}$  W/cm<sup>2</sup>) of this laser make it possible to measure the spatial resolution at the intended photon energy. A set of six crystals from two different vendors was checked on MTW, showing an unexpectedly large variation in spatial resolution of up to a factor of 4. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

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