About the Cover:

The Multi-Terawatt (MTW) Laser Facility supports small-scale target-physics experiments (see **High-Intensity Laser–Plasma Interactions in the Refluxing Limit** on p. 1 and **A High-Resolution Optical Transition-Radiation Diagnostic for Fast-Electron Transport Studies** on p. 9), as well as laser- and target-diagnostic development for OMEGA EP. Fusion Science Center for Extreme States of Matter and Fast-Ignition Physics postdoctoral fellow Philip Nilson (left) and The Institute of Optics graduate student Michael Storm (right) prepare the optical transition-radiation diagnostic (TRD) for operation. The optical TRD can be seen through an open chamber port focused on a spherical alignment target at the center of the target chamber. The MTW laser pulse arrives from the grating compressor chamber (highlighted in red in the background) via a vacuum transport tube and turning mirror assembly located inside the target chamber next to the optical TRD. The beam is focused by an *f*/2 off-axis parabolic mirror opposite the optical TRD (not visible). The nose of a single-hit x-ray spectrometer located 23° from target front-surface normal is seen at the lower left-hand side of the port.

Shown is a broader view of the MTW target area where Philip Nilson is aligning the target as viewed on a computer monitor, while Michael Storm is preparing an on-shot laser-temporal diagnostic. A long collimation tube attached to the MTW target chamber supports a charge-coupled-device (CCD) camera (not visible) operating as an x-ray spectrometer in the single-photon–counting mode. Movable lead shielding protects an adjacent area from high-energy x rays produced during some target shots.

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