About the Cover:

Charles Kellogg, Sr. Lab Engineer (left), and Per Adamson, Lab Engineer, align the OMEGA equivalent-target-plane (ETP) diagnostic. The system samples 4% of an OMEGA beam just prior to delivery to target and allows for the capture of magnified images of on-target laser beam profiles. The sample is reflected off an uncoated wedge that is highlighted by a lamp in the background of the image near the target mirror structure. This instrument is a valuable tool for investigating beam-smoothing techniques such as smoothing by spectral dispersion (SSD) and is the diagnostic used for the measurements featured in the article beginning on p. 149. The two photos below show the detailed beam path of the laser beam to the two cameras: (a) an 8×10 film camera and (b) a scientific-grade CCD array.

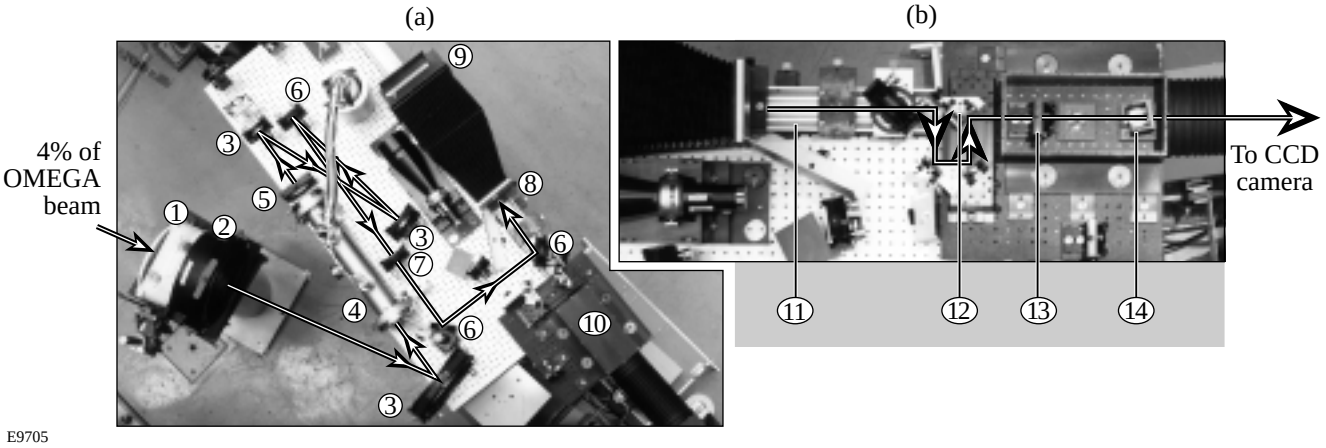

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Photo (a). A full-aperture beam of 1/25th OMEGA intensity is phase scrambled at the DPP in location (1), focused by an *f*/6 lens (2), and brought through a vacuum image relay (4). As the beam is re-imaged by a collimating optic (5), excess energy is eliminated by reflections off uncoated front-surface mirrors (3). Mirrors (6) send the reduced-energy beam through a 2-m-focal-length lens (7) and into a wedged "rattle plate" (8) that generates an array of spots of decreasing intensity for the film camera (9). Photo (b) is a close-up view of the second arm of the detector where the beam is picked up off the rattle plate (11). Here the fifth beam of the array is redirected through a trombone (12), focusing element (13), and filter array (14) to the CCD detector.

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