About the Cover:

A critical part of the National Ignition Campaign (NIC) is the accurate timing of the shock waves used to quasi-isentropically compress the fuel before its implosion. To accomplish this, a series of tuning experiments will be performed at the National Ignition Facility (NIF). A team of scientists from LLE, LLNL, and SNL, led by LLE Scientist Tom Boehly, have used the OMEGA Laser System to investigate and demonstrate the necessary techniques to measure the timing of shock waves in ignition targets on the NIF (see "Demonstration of the Shock-Timing Technique for Ignition Targets at the National Ignition Facility," p. 1). In the cover photo, Dr. Boehly (left) is shown with Ph.D. students Maria Barrios and Dayne Fratanduono (right), who study shock waves and the behavior of materials at high pressures. In the foreground is a velocity interferometer for any reflector (VISAR) from the OMEGA Laser System. The background is an image of the VISAR streak camera data from a shock-timing experiment conducted on OMEGA (see Fig. 117.8).

The inside-cover photo shows a complete VISAR system (identical to the one on the OMEGA Laser System) that was used to produce the measurements for the feature article. The system pictured will be installed on OMEGA EP to study the behavior of materials at extreme pressures. To the right are two ROSS (Rochester Optical Streak System) cameras (gray boxes) that detect and image the VISAR signals. To the left are two interferometers (black optical assemblies) that detect shock velocity. Experimental Laboratory Engineer Mike Cruz (pictured) designed and fabricated the VISAR systems for both the OMEGA and OMEGA EP Laser Systems.

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