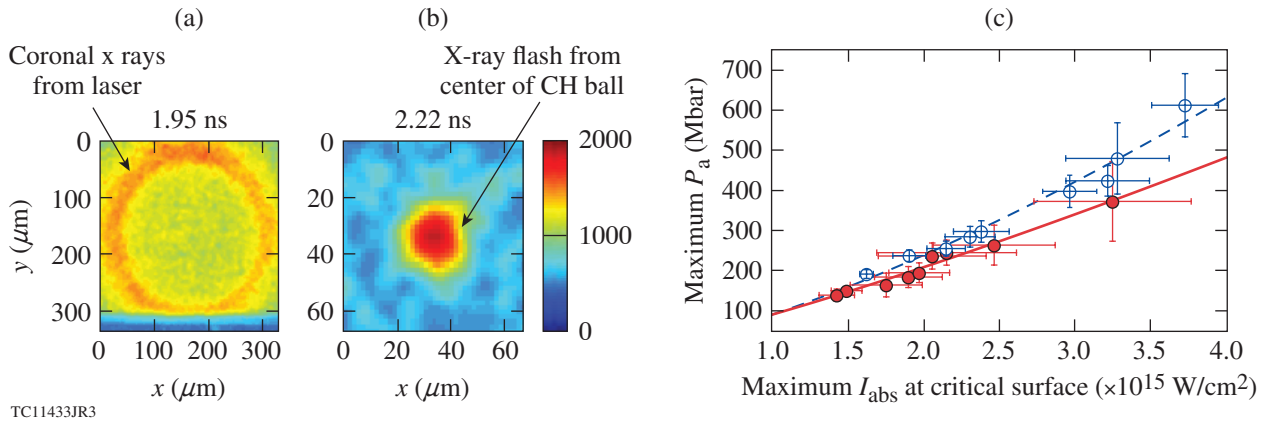
About the Cover:

The photograph on the cover presents (left to right) R. Nora, W. Theobald, B. Yaakobi (front row), F. J. Marshall, W. Seka, D. T. Michel, A. A. Solodov (middle row), J. A. Delettrez, C. Stoeckl, and R. Betti (back row), who report on an experimental demonstration of gigabar spherical shock generation on the OMEGA laser, which is an important milestone for a shock-ignition scheme of inertial confinement fusion (p. 213). In shock ignition, a cryogenic deuterium–tritium fuel shell is first imploded by a nanosecond laser driver and then a strong shock wave is launched at the end of the laser pulse, initiating ignition in the center of the compressed shell. This work was performed in collaboration with M. Lafon, A. Casner, C. Reverdin, X. Ribeyre, A. Vallet, J. Peebles, F. N. Beg, and M. S. Wei (unavailable at the time when the photograph was taken).

The figure below shows [(a),(b)] x-ray framing-camera images capturing an x-ray flash at the time when the spherical strong shock converged in the target center and (c) scaling of the inferred maximum ablation pressure versus the maximum laser intensity that is absorbed at the critical surface (red solid circles and solid line). Large amounts of hot electrons were produced, which significantly enhanced the shock strength and scaling of effective maximum ablation pressure (without hot electrons) versus the maximum laser intensity is shown (blue open circles and dashed line).



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