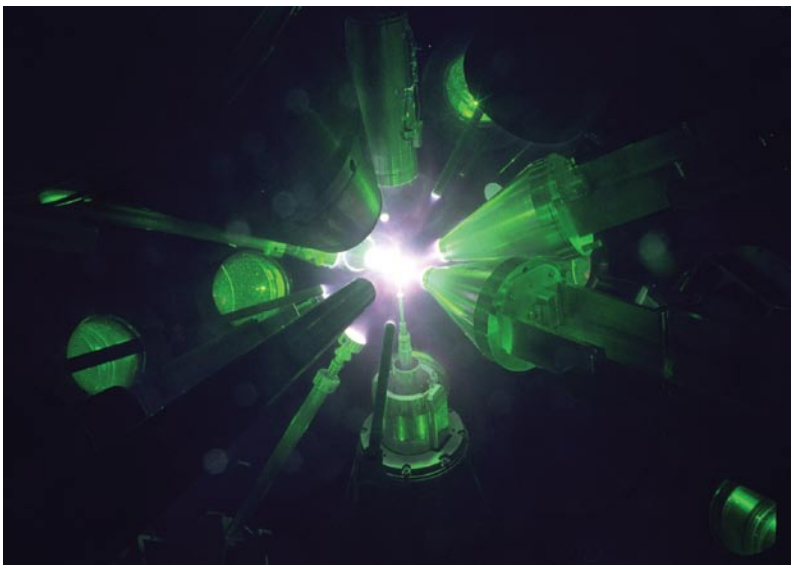
About the Cover:

The cryogenic D_2 and DT targets imploded on the OMEGA laser are mounted at the center of a beryllium "C" mount using four strands of spider silk. The C mount provides rigidity for target alignment while keeping the mass of the frame as far as possible from the target surface to minimize beam obscuration and thermal perturbations that might affect the layer quality. The silks provide a low-mass, non-rigid option for mounting the capsule to the frame. The silks remain pliable even at cryogenic temperatures and are robust against the high-radiation dose absorbed during the DT permeation fill. The cover photograph shows a time-integrated optical image of a DT cryogenic capsule being irradiated by the OMEGA laser. The uncoverted 2ω light scatters off the silks and the beryllium C mount. Individual beam spots can be seen on the capsule itself. Data from this implosion is discussed in the article "Cryogenic DT and D_2 Targets for Inertial Confinement Fusion" on page 167.



A wide-field view of the cover photograph shows the large number of target-physics diagnostics used to understand the cryogenic implosions. These include two x-ray spectrometers (on the right), charged-particle spectrometers, x-ray pinhole cameras, and a gated x-ray imager. The structure below the target is the moving cryostat docked to the lower pylon; the upper shroud is directly above the target. The upper shroud is quickly removed just prior to laser irradiation. The capsule is exposed to the chamber for less than 100 ms before the shot. This ensures that the ice layer is unaffected by the ambient chamber infrared radiation. If the exposure time is much longer than 100 ms, the chamber radiation will begin to melt the ice layer.

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