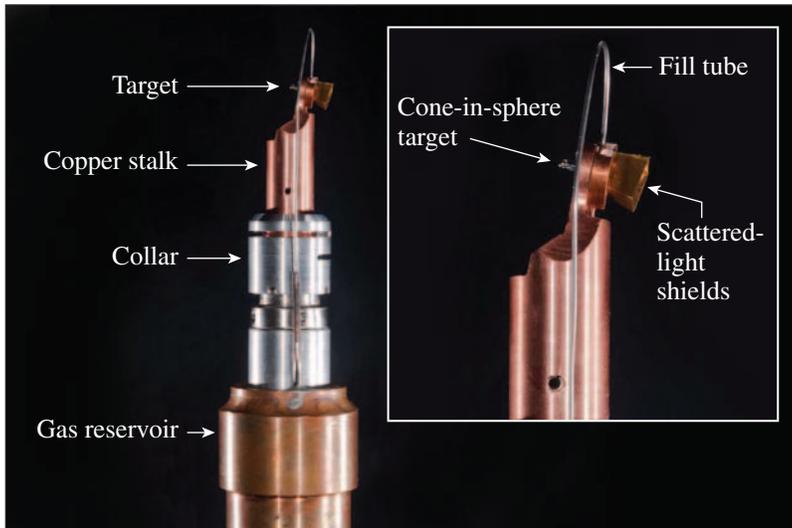


About the Cover:

The cover photo shows Dr. Tom Boehly, the LLE Scientist who led the OMEGA shock-timing experiments reported on p. 1, and Mr. Mark Bonino, the Target Production Group Leader whose group built the targets, holding the assembly for a cryogenic cone-in-shell target. During experiments, this target assembly is installed on the moving cryostat seen in the background. These targets were used in the first experiments to time multiple, spherically converging shock waves in a liquid-deuterium-filled shell. These first experiments were performed on the OMEGA laser and demonstrated the ability to time and control shock waves to the precision needed for ignition experiments. This technique is currently being applied to hohlraum-driven ignition targets on the NIF.



The photo at the left shows a target assembly for a cone-in-shell target used for shock-timing experiments. The 900- μm -diam CD shell has a re-entrant cone to provide access for VISAR to detect shocks in the deuterium contained within the shell. The cone is mounted on a copper stalk where the liquid deuterium is held at 19 K. It is a closed system utilizing a gas reservoir connected to the assembly through a large fill tube. The shields on the rear of the assembly protect the quartz VISAR window from scattered light and x rays that could photoionize the window material and cause it to become opaque.

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