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Implosion spectroscopy in Rugby hohlraums on OMEGA
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— The rugby hohlraum concept has been validated in previous experiments on the OMEGA laser facility. This new hohlraum type can now be used as a well-characterized experimental platform to study indirect drive implosion, at higher radiation temperatures than would be feasible at this scale with classical cylindrical hohlraums. Recent experiments have focused on the late stages of implosion and hotspot behavior. The capsules included both a thin buried Titanium tracer layer, 0-3 microns from the inner surface, Argon dopant in the deuterium gas fuel and Germanium doped CH shells, providing a variety of spectral signatures of the plasma conditions in different parts of the target. X-ray spectroscopy and imaging were used to study compression, Rayleigh-Taylor instabilities growth at the inner surface and mix between the shell and gas.

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