Abstract Submitted
for the DPP08 Meeting of
The American Physical Society

3-D Modeling of Planar Target-Mount Perturbation Experiments on OMEGA T.J.B. COLLINS, F.J. MARSHALL, J.A. MAROZAS, M.J. BONINO, R. FORTIES, V.N. GONCHAROV, I.V. IGUMENSHCHEV, P.W. MCKENTY, V.A. SMALYUK, Laboratory for Laser Energetics, U. of Rochester — OMEGA cryogenic targets are suspended in the target chamber using four spider silks attached to a C-shaped mount. The spider silks are typically composed of two entwined protein strands comparable to 1 μm in diameter. The silks and mount refract the incident laser light and cast shadows on the target surface. Experiments to measure the effects of the silks on target illumination have been performed in planar geometry using silks suspended parallel to a 20-μm-thick laser-driven target. The evolution of the surface perturbations introduced by the silks was measured using x-ray backlighting. The results of these experiments will be compared to simulations performed with *DRACO*, employing three-dimensional (3-D) planar hydrodynamics and a new 3-D refractive ray-trace package written specifically for this geometry. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

John Marozas
Laboratory for Laser Energetics, U. of Rochester

Date submitted: 16 Jul 2008 Electronic form version 1.4