

Abstract Submitted  
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**An Investigation of Two-Plasmon–Decay Localization in Spherical Implosion Experiments on OMEGA** J.F. MYATT, J. SHAW, J. ZHANG, A.V. MAXIMOV, R.W. SHORT, W. SEKA, D.H. EDGELL, Laboratory for Laser Energetics, U. of Rochester, D.F. DUBOIS, LANL and Lodestar Research, D.A. RUSSELL, Lodestar Research, H.X. VU, U. of California, San Diego — The localization of the two-plasmon–decay (TPD) instability to specific angular regions of the quarter-critical surface in spherical implosion experiments on OMEGA has been demonstrated through the imaging of both half- and three-halves harmonic emission.<sup>1,2</sup> Localization is possible because TPD is a multibeam instability and different angular locations on the quarter-critical surface are driven by beams whose incident angles and intensities vary. The degree of localization has been quantified through a series of numerical calculations that were performed with a 3-D nonlinear Zakharov model of TPD. Based on these results, estimates for localized electron plasma temperature excursions have been obtained and compared with those inferred from experiment. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

<sup>1</sup>W. Seka *et al.*, Phys. Rev. Lett. **112**, 145001 (2014).

<sup>2</sup>D. H. Edgell *et al.*, this conference.

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