Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

A Quasilinear Model for the Two-Plasmon-Decay Instability in Inhomogeneous Plasmas J.F. MYATT, J. ZHANG, A.V. MAXIMOV, R.W. SHORT, Laboratory for Laser Energetics, U. of Rochester, D.F. DUBOIS, D.A. RUSSELL, Lodestar Research Corp., H.X. VU, U. of California, San Diego — A quasilinear-Zakharov model of two-plasmon decay is described and its validity tested, first by comparing the diffusion of test-particle orbits against quasilinear predictions for cases of interest to polar-drive ignition, and second by comparing heated electron-distribution functions with reduced particle-in-cell calculations using the code RPIC. The expected preheat arising from the predicted hot-electron temperature and hot-electron flux from the model calculations is discussed. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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Date submitted: 12 Jul 2011 Electronic form version 1.4