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Investigation of low-mode asymmetries in Omega direct-drive implosion STEPHANE LAFFITE, C. BLANCARD, J. L. BOURGADE, T. CAILLAUD, P. COSSE, G. FAUSSURIER, F. GIRARD, O. LANDOAS, S. LEMAIRE, P. E. MASSON-LABORDE, F. PHILIPPE, C. REVERDIN, V. TASSIN, G. LEGAY, CEA, L. MASSE, LLNL, J. DELETTREZ, V. GLEBOV, F. MARSHALL, T. MICHEL, W. SEKA, LLE, J. FRENJE, MIT, R. MANCINI, University of Nevada, T. JOSGI, LANL — We have investigated the evolution and the effect of low-mode asymmetries in direct-drive implosions. The experiments were carried out on the Omega facility. Two different pulse shapes, 1ns square pulse and 2-step pulse, were tested in order to vary the implosion stability of the same target whose the parameters, dimensions and composition, remained the same. For some of these shots, an artificially P4-mode asymmetry was imposed by lowering the energy of half the beams. For spectroscopy and x-ray imaging purpose, Ar tracer was added to the D2 fuel. A Ti tracer was also added to the CH ablator. Analysis of the spectra shows no mix between the fuel and the Ti layer. The core asymmetries, measured by x-ray and neutron imaging, clearly exhibit a P4 deformation. The correlation between asymmetries and pulse shape is investigated.

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