

Abstract Submitted  
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**Time history and performances of direct-drive implosion on the Omega facility** STEPHANE LAFFITE, JEAN-LUC BOURGADE, TONY CAILLAUD, FREDERIC GIRARD, OLIVIER LANDOAS, SEBASTIEN LEMAIRE, LAURENT MASSE, PAUL-EDOUARD MASSON-LABORDE, FRANK PHILIPPE, CHARLES REVERDIN, VERONIQUE TASSIN, CEA DAM DIF, GUILLAUME LEGAY, CEA DAM VA, JACQUES DELETTREZ, VLADIMIR GLEBOV, FREDERIC MARSHALL, TOMLINE MICHEL, WOLF SEKA, LLE, TIRTHA JOSHI, ROBERTO MANCINI, University of Nevada, JOHAN FRENJE, MIT — We present direct-drive experiments which were carried out on the Omega facility. Three different pulse shapes were tested in order to vary the implosion stability of the same target. The direct-drive configuration on the Omega facility allows the accurate time-resolved measurements of the scattered light. We show that, providing the laser coupling is well controlled, the implosion time history, assessed by the “bang-time” and the shell trajectory measurements, can be predicted. This conclusion is independent on the pulse shape. On the contrary, we show that the pulse shape affects the implosion stability, assessed by the comparison of the target performances, between prediction and measure. For the 1-ns square pulse, the measured neutron number is about 80% of the prediction. For the 2-step 2-ns pulse, this ratio falls down to about 20%.

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