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Numerical simulations of late-time LMJ-like targets and comparison with LIL facility experiments LAURENT VIDEAU, PATRICK COMBIS, STEPHANE LAFFITE, JEAN-PAUL JADAUD, CEA-DAM-DIF, JEAN-MARC CHEVALIER, ROGER COURCHINOUX, DIDIER RAFFESTIN, ALAIN GEILLE, CEA-DAM-CESTA — Diagnostics or optics could be damaged by unexpected shrapnel and debris coming from laser target interactions during an experiment on the Laser MegaJoule (LMJ) facility. Each LMJ target design will require a shrapnel and debris analysis based on simulations. We have then developed a numerical approach which allows us simulating LMJ experiments at late-time scale including laser holhraum target coupling, late-time plasma simulations, and fragmentation modeling. Experiments on the multikilojoule LIL system (Ligne d'Integration Laser) have been carried out to emulate fragmentation conditions that should be avoided on LMJ. A broadband soft x-ray spectrometer allows us verifying the laser hohlraum coupling and aerogel collectors are used to characterize the velocity and angular shrapnel distributions. The hohlraum expansion characteristics have been experimentally verified by measuring directions and velocities of the ejected matter.

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