Abstract Submitted
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Radiative shock experiments on the SG-II laser[1] F. SUZUKI-VIDAL, Imperial College London, UK, T. CLAYSON, First Light Fusion Ltd, UK, C. STEHLE, Sorbonne University, Observatoire de Paris, CNRS, France, J.W.D. HALLIDAY, Imperial College London, UK, J.M. FOSTER, C. DANSON, AWE Plc, UK, C. KURANZ, U. of Michigan, USA, C. SPINDLOE, Scitech Precision Ltd, UK, P. VELARDE, U. Politecnica de Madrid, Spain, U. CHAULAGAIN, ELI Beamlines, Czech Republic, M. SUN, L. REN, N. KANG, H. LIU, J. ZHU, Shanghai Institute of Optics and Fine Mechanics, China — We present first results on the formation of radiative shocks on the SG-II laser at SIOM in China. The experiments build upon previous studies of piston-driven radiative shocks in Xenon [1] and Neon [2] using large-aspect ratio gas-cells, allowing the shocks to propagate unimpeded. The SG-II experiments looked at the dynamics of single and counterpropagating shocks in Argon at a pressure of ˜1 bar with time-resolved, point-projection X-ray backlighting using a Scandium backlighter (˜4.3 keV probing energy). A new target design was used to study the late-time evolution of these shocks at times ˜100 ns, allowing the development of spatial features at the head of the shocks to be investigated. [1] F. Suzuki-Vidal et al., "Counterpropagating Radiative Shock Experiments on the Orion Laser", Physical Review Letters 119, 055001 (2017), [2] T. Clayson et al., "Counter-propagating radiative shock experiments on the Orion laser and the formation of radiative precursors", High Energy Density Physics 23, 60-72 (2017).

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