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Behavior of irradiated low-Z walls and adjacent plasma¹ R.P. DRAKE, E.S. MYRA, M.J. GROSSKOPF, E. RUTTER, B. TORRALVA, University of Michigan — In many laboratory astrophysics and high-energy-density experiments, a source of soft x-rays irradiates a low-Z surface. This happens in ICF capsules, in hohlraum- driven experiments, and in radiative shock experiments. There is often a background gas, as for example in ongoing experiments at the National Ignition Facility in which a gas-filled hohlraum is used to drive an equatorial package. In such systems, the soft x- rays penetrate and heat the gas and sustain the temperature of the material ablated from the surface, forming the isothermal rarefaction, before being absorbed at the heat front. The resulting high pressure drives a shock into the dense wall or package material. We discuss the overall structure of such a system and the errors introduced when it is under-resolved as may be necessary in simulations of complex laser targets.

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