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Symmetry of spherically converging shocks through reflection, relating to the Shock Ignition Inertial Fusion Energy scheme CHRISTOPHER DAVIE, ROGER EVANS, Imperial College London, CIFS TEAM — Asymmetries in spherically imploding shocks through convergence, bounce and reflection into an outgoing shock wave are examined, to understand how they might contribute to the distortion of the final ignition process in the Shock Ignition (SI) Inertial Fusion Energy scheme, limiting energy output. We find that shock fronts that do not collapse centrally in 3D still reflect, but do so with less compression. Even for quite extreme, 3D perturbations, hydrodynamic shocks are robust; they are stable through convergence and reflection. After reflection, the size and shape of the perturbation returns, broadly, to the size and shape during convergence.

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