Calibration of computer models for radiative shock experiments

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Abstract

POLAR experiments aimed to mimic the astrophysical accretion shock formation in laboratory using high-power laser facilities. The dynamics and the main physical properties of the radiative shock produced by the collision of the heated plasma with a solid obstacle have been characterised on recent experiments and compared to radiation hydrodynamic simulations. This poster will present the statistical method based on Bayesian inference used to calibrate the main unknown parameters of the simulation and to quantify the model uncertainty.