

# MESO-SCALE SIMULATIONS OF SHOCK-PARTICLE INTERACTIONS

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## ABSTRACT

Understanding shock-particle interactions is fundamental for a variety of physics and engineering problems. However, the particle response to the shock-induced flow results in a large uncertainty, hindering the computational capability to predict such complex flow. The key parameters are the forces on the particle and its motion. We will present results from hydrodynamics simulations performed to study the interaction of shock waves with metal particles under various shock loading conditions. The recent experimental data by Wagner et al. [3] will be used to validate our computational results. The particles motion and speed will be calculated and compared to Wagner's measurements. Such computations will provide inputs to develop drag models for these multiphase flows