EXTENSION OF GEOMETRICAL SHOCK DYNAMICS TO BLAST WAVE PROPAGATION

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ABSTRACT

Direct numerical simulation of airborne blast waves, from source location to long distance, is a challenging task due to the wide range of spatial and temporal scales. Billions of cells are necessary for 3D codes. Taking into account topography, obstacles and variable atmospheric conditions is further restricting. In this paper we present a simplified model for blast wave propagation designed to obtain reasonably accurate results at low computational cost. This new model is an extension of simplified models for shock propagation to blast waves, which gives the first arrival time and overpressure at the front.