

# NUMERICAL INVESTIGATION OF FLUIDDYNAMIC INSTABILITIES AND PRESSURE FLUCTUATIONS IN THE NEAR FIELD OF A DETONATION

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## ABSTRACT

The near field of a blast wave caused by the detonation of a spherical TNT charge is investigated via numerical simulation. The study focuses on the effects of the Rayleigh-Taylor and the Richtmyer-Meshkov instability of the fluid interface on fluctuations in the total pressure field. The numerical simulations are performed with a finite volume multi-fluid ALE-method. The simulations use globally adapted grids, which stretch with the expanding blast wave. The paper describes the details of the applied methods and gives a survey on the results obtained.