

BLAST AND DYNAMIC THERMAL PHENOMENA ANALYSIS WITH CLOSED CHAMBER DETONATION EXPERIMENTS

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To investigate the blast and dynamic thermal phenomena, detonation experiments were conducted with closed chamber. The internal pressure and temperature of the chamber were measured by piezoresistive type sensor and ultra-fine thermocouple, respectively. The experimental results were compared with Autodyn(hydrocode) analysis, and the pressure results showed good agreement in the early stage of the detonation experiment. However, in the middle and later stage of experiment, due to the after-burning effect, the analysis result showed lower value than the experiment one, therefore, the impulse showed lower value. Especially, when analyzing the temperature and thermal impulse, after-burning effect should be considered for precision results.