

## COMPUTER MODELING OF THE VOITENKO SHOCK TUBE GENERATOR

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Two successful shock tube experiments(1) were performed a year ago at the Lawrence Livermore Laboratory. The experiments simulated the high enthalpy flow conditions that might arise in the nuclear blast encounter of a tunnel-based missile. The experiments, using a modified Voitenko high explosive generator, produced megabar pressure conditions at the inlet of the 2 cm-diameter air-filled shock tubes. Calculations using an arbitrary Lagrange-Eulerian computer code have been done to model the  $10^{**5}$ -fold increase in air pressure in the Voitenko generator and the initial air flow down the shock tube. A detailed understanding of the Voitenko generator operation has been obtained. Very good agreement with experiment has been calculated for the timing in the shock tube experiments, and the source of measured pressure oscillations has been explained.

Reference: (1) H. D. Glenn, et al, these proceedings.