

## **EFFECTS OF DIFFERENT SHOCK-TUBE DRIVER GEOMETRIES ON A SIMULATED BLAST-WAVE SIGNATURE**

GOTTLIEB,J.J.;FUNK,J.W.

The results of an experimental study of the effects of eight different shock tube driver geometries on the overpressure signature of a simulated blast wave are presented. These results illustrate that a simulated blast wave having a moderate peak overpressure (0-200 kPa) and duration (20-150 ms) and the correct wave form (Friedlander shape) can be produced in a constant-area shock tube channel, by using a larger constant-area shock tube driver containing a specially designed perforated cone. This perforated cone effectively regulated the mass discharge of air from the driver into the channel, thereby shaping the overpressure signatures of the blast wave.

Additionally, it is shown that peak overpressure of the simulated blast wave can be predicted by means of conventional shock tube theory and, in the case of weak simulated blast waves, the entire signature can be predicted by using acoustic theory.