

SHOCK AND BLAST SIMULATION. TEST OF A FAST OPENING VALVE FOR THE 2.40 M DIAMETER SHOCK TUBE AT THE CEG

GRATIAS,S.

In order to simulate the blast and shock waves from a nuclear explosion, the Centre d'Etude de Gramat is using from 1974 a 2.40 m diameter shock tube and from 1979 the Large Blast Simulator.

On the 2 facilities, driver tubes are separated from the driver zone by diaphragms opened with pyrotechnics means. In order to improve the working of those facilities, the CEG plans to replace the diaphragms by a non pyrotechnic fast opening device.

First, a prototype fast opening valve with a 665 mm aperture diameter is installed at the place of the diaphragm on the 2.40 m diameter shock tube.

This paper, divided into 3 parts intends to:

1. Give the reasons for which we want to replace the diaphragms.
2. Describe, concisely, the working principle of the used valve.
3. Give the first results obtained with the new device.