

SYNERGY OF THERMAL AND BLAST EFFECTS INSTALLATION OF A THERMAL FLUX SIMULATOR AT THE CEG

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When a nuclear weapon is detonated in the atmosphere targets are loaded first by a thermal flash and then by a blast wave. For some materials, one of these phenomena is predominant, but for many other materials, the thermal loading of the target significantly enhances the damage produced by the blast wave that follows.

In order to harden sensitive targets (light constructions: air-craft, missile, electronic shelters) against synergetic effects the Centre d'Etudes de Gramat intends to supply their blast simulators (d= 2.4 m shock tube, and the Large Blast Simulator) with a Thermal Radiation Simulator that provides the relation between radiant energy emitted and the arrival of the blast wave. For that, some studies are now doing with a three burners TRS-LOX that Sciences Applications Inc. built for C.E.G.

After a brief summary of system work principle, this paper will give the first obtained results with this system:

- The measurement means will be described
- A flux and fluence mapping in the free field will be provided
- A comparison with the flux and fluence mapping in shock tube will be done
 - Some results about TRX-LOX spectral emission will be given