EFFECTS OF BAG MASS ON PRECURSOR SIMULATION

SCHNEIDER,K.D.;NEEDHAM,C.E.

The precursor phenomenon is currently being modeled, in high explosive tests, by the deployment above the ground of a thin mylar sheet bag). The space between sheet and ground is filled with He. He is used because its sound speed is roughly equal to the sound speed of 2000 degree C air. The precursor which develop from this system is similar to those observed on nuclear tests.

One of the concerns with using this system is the effect of the extra mass of the bag mass, the mylar sheet, its tie down system and any condensed water which might be present on the flow. To determine these effects, if any, on the precursed flow, a series of calculations modeling this type of system was completed. The calculations modeled the system using massive interactive particles (drag sensitive spheres).

The calculations presented in the paper model 2 similar HE tests containing bag systems. The 24 T test was a scaled down version of the larger 4800 T test.