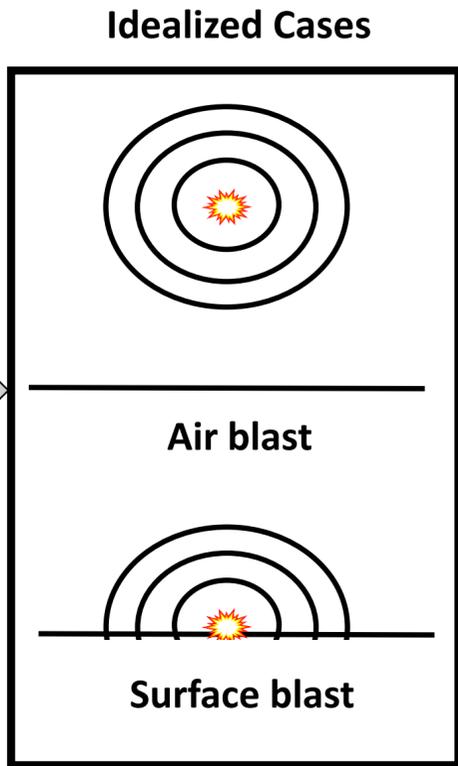


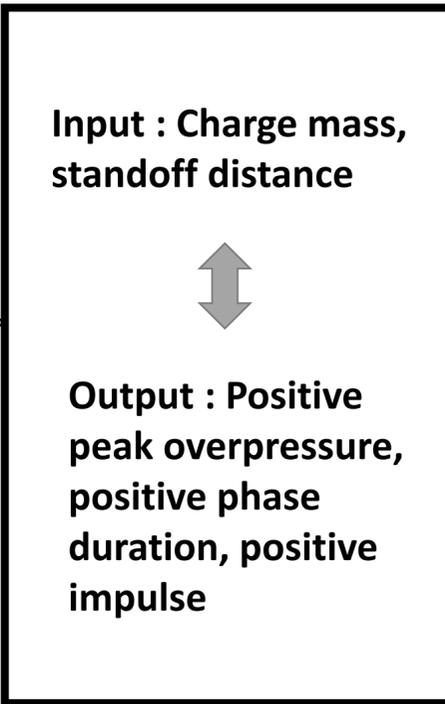
How to generate blast waves in laboratories



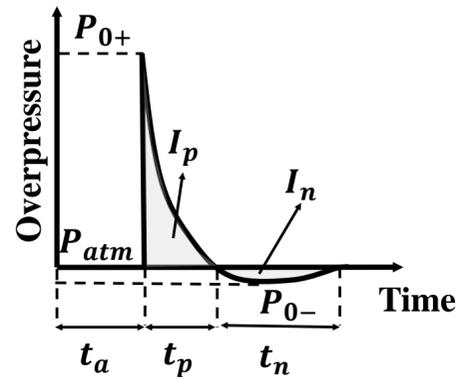
Explosion



Empirical : Kingery Bulmash equations



Friedlander curve

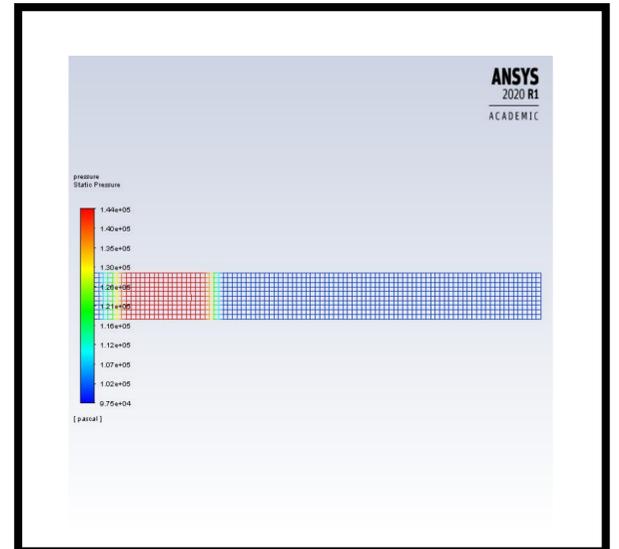


Blast wave parameters estimated based on empirical equations are fitted to modified Friedlander equation to obtain ideal pressure time profile of a blast wave.

Inverse calculations using CFD codes



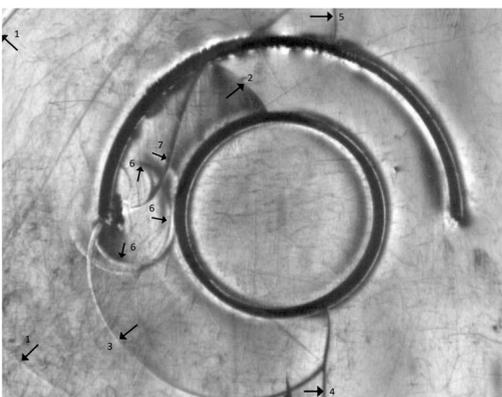
Blast wave simulators @ IIT madras



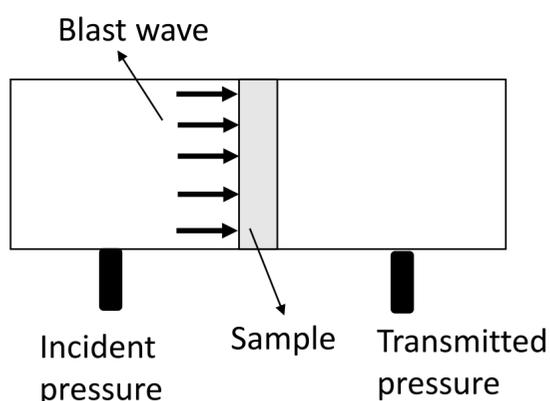
Shock tube dimensions required to produce typical Friedlander type blast wave profiles are calculated using CFD codes

Potential applications

- Blast load estimation on structures with complex geometries.



- Behavior of materials such as concrete, mortar, foams and armor materials under blast loading.



- Testing of biomechanical samples such as surrogates, post mortems human organs and living animals under blast loading

