

DESIGN AND EVALUATION OF A REFLECTION ELIMINATOR BASED ON GAS DYNAMIC WAVE INTERACTION

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For testing military equipment against blast effects use is often made of blast wave simulators or special shock tubes. Such a device is similar in testing as the wind tunnel is in aircraft engineering research. However, there is quite a large distinction in that a blast simulator simulates a complete or partial blast wave environment, which is characterized by its Transient motion of shock waves. In general, the duration of the flow in a blast simulator takes about tens of milliseconds, and very high costs are spend to increase this duration. In principle, a blast simulator is used to test equipment against the blast effects of explosions, "here in particular the nuclear explosion received most attention during the development of these devices. In the 1970's blast simulators were also used to create accidental blast waves phenomena, which are characterized by their non-ideal shapes, and are mainly caused by explosion(s) of inflammable materials, e.g. propane and/or methane gases and vapors. This kind of research requires a totally different approach in simulation techniques. and devices having a wide range in applicability are seldom seen.