

PASSIVE AND ACTIVE REFLECTION ELIMINATORS

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Current analytical, numerical, design and experimental studies of different types of reflection eliminators for small and large shock tubes and blast simulators are reported. These results have important applications

to passive reflection eliminators in the form of a plate with central orifices or vents, a grill of spaced bars a plate with a stand off distance, and a plate with both end and side vents, all of which have flow exit ar-

reas that are fixed with time. However, the emphasis is more on active reflection eliminators which use rotating louvers, relative rotation of overlapped and slotted disks or blades, and folding flaps, in order to

beneficially change the reflection eliminator area with time to help minimize the reflected wave.

This work also demonstrates the importance of using active rather than passive reflection eliminators for large shock tube and blast simulators, illustrate the advantage of including adjustable side vents as part of an active reflection eliminator, and shows that reflection elimination can be achieved not only for the initial positive phase of a blast wave but also for the following negative phase.