

# **P53 Some Reflections on Energy and Momentum Transfer During Explosive Loading**

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## **Abstract:**

A proper understanding of the nature of the energy and momentum transfers that occur during the explosive and other dynamic loadings of structures is essential to the interpretation and analysis of the structural response.

This paper reflects on these matters, in particular the some-what counterintuitive fact that an increase in momentum transfer is necessarily associated with a decrease in energy transfer and vice-versa. The unexpected effects of increasing the span of panels subjected to close-in explosive loading, the potential for the use of crushable layers to absorb energy, and the coupled response of flat panels and stand-off screens are among the topics discussed.

Illustrative examples are taken from a wide range of full scale trials involving the explosive loading of structures undertaken by the author between 1993 and the early years of this century, and a few other relevant sources.

## **Notes:**