

In-structure Shock Analysis and Validation

Analytical method usually involves the usage of single-degree-of-freedom (SDOF) or multi-degree-of-freedom (MDOF) models to idealize the structural element under consideration and these models utilize the first few modes to predict the structure's response to blast loading. The aim of the study is to develop numerical finite element models to predict the structural response and subsequent in-structure shock loading within surface and subsurface structures for various blast scenarios. The results obtained will be compared with Single-Degree-of-Freedom (SDOF) models used for the predictions of in-structure shock loads to provide guidance in the appropriate usage of the SDOF models.

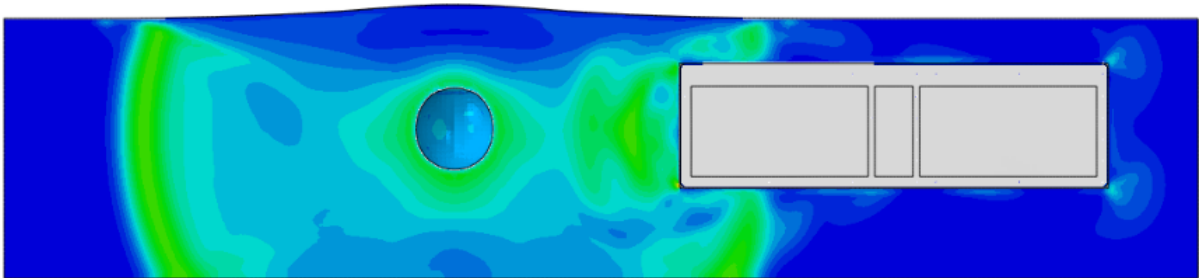


Figure 1: Sub-structural response to blast loading

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