

Structural integrity under extreme loads

Topic: High fidelity models of blast loaded structures

TITLE: Numerical characterisation of the behaviour of blast loaded composite structures.

RESEARCH BACKGROUND:

Blast loading represents a critical extreme loading condition for several structures. Simulating the blast response of composite plates is even more complex due to the several possible damage types intrinsically characterising composite materials.

RESEARCH ACTIVITIES:

1. Literature research on state-of-the-art techniques to simulate blast loaded structures.
2. Implementation of identified methods for free-field and confined blast scenarios.
3. Development of fast running engineering tools based on the outcomes of numerical simulations.

METHODOLOGY: Numerical - Analytical

DURATION: 6-9 months

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