Penetration Analysis for Composites Applicable to Military Vehicle Armors, Aircraft Engines and Nuclear Power Plant Structures

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Abstract : This paper describes a method for analyzing penetration for composite material using an explicit nonlinear Finite Element Analysis (FEA). This method may be used in the early stage of design for the protection of military vehicles, aircraft engines and nuclear power plant structures made of composite materials. This paper deals with simple ballistic penetration tests for composite materials and the FEA modeling method and results. The FEA was performed to interpret the ballistic field test phenomenon regarding the damage propagation in the structure subjected to local foreign object impact.

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