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Dynamic collapse forces of composite reinforced metal hemispherical  
shells

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**Abstract:** An analytical method is presented in this paper to solve the energy absorption capacity of composite reinforced metal hemispherical shells undergoing axial compression. Here, finite element method is also applied to simulate the collapse process, employing the software ABAQUS, to verify the feasibility of the analytical model. The effects of composite layer (viz. fiber layer thickness proportions and fiber reinforced orientation), loading velocity and geometric parameter of hemispherical shells ( $R/t$ ) are described and investigated in examples respectively.

**Keywords:** Composite reinforced metal hemispherical shells, Collapse characteristics, Analytical method, Numerical simulation

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