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Dynamic response and vibration of composite double curved shallow shells with negative Poisson's ratio in auxetic honeycombs core layer on elastic foundations subjected to blast and damping loads

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**Highlights**

- To investigate dynamic response and vibration of composite double curved shallow shells by using analytical solution.
- The composite shells have the central auxetic core layer – honeycomb structures with negative Poisson's ratio.
- Based on the first order shear deformation theory (FSDT).
- Used Airy stress functions, Galerkin method and fourth-order Runge-Kutta method.
- The effects of geometrical parameters, material properties, elastic Winkler and Pasternak foundations, mechanical and blast loads are studied.

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