

Research on Static and Dynamic Behavior of New Combination of Aluminum Honeycomb Panel and Rod Single-Layer Latticed Shell

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Abstract : In addition to the advantages of light weight, resistant corrosion and ease of processing, aluminum is also applied to the long-span spatial structures. However, the elastic modulus of aluminum is lower than that of the steel. This paper combines the high performance aluminum honeycomb panel with the aluminum latticed shell, forming a new panel-and-rod composite shell structure. Through comparative analysis between the static and dynamic performance, the conclusion that the structure of composite shell is noticeably superior to the structure combined before.

Keywords : combination of aluminum honeycomb panel, rod latticed shell, dynamic performance, response spectrum analysis, seismic properties

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