

عنوان مقاله:

Assessing the Safety of Reticular Double Layer Domes with/without Primary Consideration of Equivalent Static Earthquake Loading

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خلاصه مقاله:

Reticular double layer domes have gained in huge popularity for their lightness, easy construction and repair, highly indeterminacy and efficiency in covering large spaces. Although this kind of space structures is employed widely in practice, there is not enough information about their seismic design procedure. Among the works carried out in quantifying the earthquake effects on the double layer domes, one can refer to the work done by authors in ۲۰۱۰. They presented some equations for estimation of equivalent static loadings on double layer domes. The present paper aims at investigating the efficiency of these equations through comparing the dynamic nonlinear responses of two sets of domes that are designed with and without consideration of these loadings in design stage. The result of the analyses shows that although these equations improve the responses of the considered domes, they do not make them absolutely safe.

کلمات کلیدی:

Space Structures, Double Layer Domes, Dynamic Analysis, Finite element

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