

## عنوان مقاله:

The Effect of Arching Styles on the Behavior of Scallop Domes

## محل انتشار:

چهارمین کنفرانس ملی زلزله و سازه (سال: 1392)

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## خلاصه مقاله:

The effect of one of the important geometric features of scallop domes on their behavior is investigated in this paper. The feature is the effect of the arching style of the segments of scallop domes on the weight of the structure. For this purpose, double-layer scallop domes with spans, the ratio of the height to the span and the number of different segments are configured and analyzed once for the sinusoidal arching style and once for the parabolic arching style. The obtained results, which show the process of variation in the weight of the structure in terms of the variation of the above stated parameters on one hand and compare the effect of arching styles on the other hand, have been illustrated. The results reveal the fact that parabolic arching style which produces steep curve slopes will result in lighter as well as more efficient domes in comparison with the sinusoidal arching style which makes domes with smooth curve slopes. Therefore, it has been recommended that the parabolic arching style be employed in order to construct more efficient domes unless it is in contrast with the architectural aims and aesthetic characteristics.

## کلمات کلیدی:

Scallop dome, Arching style, Behavior, Amplitude

## لینک ثابت مقاله در پایگاه سیویلیکا:

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