

## عنوان مقاله:

ANALYTICAL STUDIES OF THE SEISMIC BEHAVIOUR OF THE (-BEAM, JACK-ARCH ROOFING SYSTEM

## محل انتشار:

دومین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1374)

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## خلاصه مقاله:

Noting the wide spread use of the steel f-beam, jack-arch system of roofing in Iran and elsewhere, surprisingly no reference to the seismic evaluation of the system can be found in scientific literature. As a first step in understanding and evaluation of the seismic performance of the jack-arch system of roofing, an analytical study was carried out. It was found that the seismic behaviour of the jack-arch system is influenced by many geometric and material variables resulting from the composite nature of the system including different geometric configurations, material properties and construction methods. An extensive parametric study was conducted aimed at determining the effect of each variable parameter (such as beam span, number of panels, rise of arch, etc) on the dynamic and earthquake performance of the slab. Amongst a number of observations, the sensitivity of the jack-arch floor slab to the out-of-plane vibration, rising mainly from the vertical component of an earthquake, is worthy of mention. The dynamic interaction in the composite system is amplified in the out-of-plane vibration. In order to reduce this interaction a reduction in the stiffness of the rigid jack-arch is proposed. This may be achieved by providing simple flexible joints along the length of the arch. The effectiveness of the these joints in reducing the interaction and improving the seismic behaviour of the slab is shown.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1281410>

