

عنوان مقاله:

Rebar Brace Equipped with Slack Free Connection to Reduce Seismic Vibration

محل انتشار:

سومین کنفرانس بین المللی آکوستیک و ارتعاشات (سال: 1392)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Seyed Amin Mousavi - School of Civil Engineering, University of Tehran

Seyed Mehdi Zahrai - School of Civil Engineering, University of Tehran

خلاصه مقاله:

A new yielding device is introduced to improve energy dissipation capacity and seismic vibration. The yielding device is composed of steel rebars and a specific mechanical device, called slack free connection, SFC. The main role of the SFC is to eliminate pinching from nonlinear cyclic behaviour of the diagonal rebars by keeping them tight during load reversals. That is, if the rebar tends to be compressed, SFC would not restrict it and the rebar would be free to move inside to the SFC. In contrast, if the rebar tends to be tensioned, SFC restrains it and behaves like a conventional simple connection. As a result, the X shape rebar brace would have a non-pinched cyclic behaviour which is well suited for seismic applications. Moreover, rebars elements would yield always in tension which is the best yielding mechanism, compared to shear or flexural yielding. The main focus of the current study is on seismic-induced vibrations, however derived formulations are quite general and they are able to address other excitations as well.

کلمات کلیدی:

Rebar brace, passive control, yielding damper, energy dissipation

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/270965>

