

## عنوان مقاله:

BIOINSPIRATION AND ANALYSIS OF MULTILEVEL ROCKING CORES

## محل انتشار:

هشتمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1398)

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## خلاصه مقاله:

This article presents a simple analogy, with practical applications, between the human spine and Multilevel Rocking Cores (MLRCs) under similar loading conditions. The use of energy dissipating rocking cores in general and Multilevel Rocking Cores (MLRC) in particular is a relatively new concept for reducing earthquake damage in new and existing buildings. The literature on the subject is rather scant. There are neither official guidelines nor educational materials for practical design of MLRCs. The first step towards rational design of MLRCs is to understand their elastic state static/dynamic behavior as part of a gravity and/or earthquake resisting system. The purpose of the current paper is not to reiterate the merits of various rocking systems, but to provide reliable formulae for the preliminary design of simple MLRCs. Suffice to note that the multitude of gap movements in MLRCs results in increased damping and elongated periods of vibrations. All solutions are exact within the bounds of the theoretical assumptions. All results .have been verified by independent computer analysis

## کلمات کلیدی:

Multi-level rocking cores, damage reduction, constitutive equations, static behavior, period analysis

## لینک ثابت مقاله در پایگاه سیویلیکا:

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