

## عنوان مقاله:

Collapse Safety Margin in Iranian Seismic Design Code: Case Studies of RC Frame Structures

## محل انتشار:

فصلنامه زلزله شناسی و مهندسی زلزله، دوره 19، شماره 1 (سال: 1396)

تعداد صفحات اصل مقاله: 10

## نویسندگان:

Ali Reza Manafpour - *Urmia University, Urmia*

Maryam Tohidian - *Urmia University, Urmia*

## خلاصه مقاله:

According to the modern seismic design codes, the structural collapse is a catastrophic state which is not acceptable, even under very rare earthquakes. Hence, evaluation of collapse safety margin for structures design based on code requirements is very important. The paper tackles this issue considering RC frame structures designed according to Iranian seismic standard (Standard ۲۸۰۰). Incremental Dynamic Analysis (IDA) is carried out using ۲۲ natural ground motion records. The study includes RC moment resisting frames with ۳, ۶ and ۱۰ stories considering two types of soil classifications (Type II and III) and two alternatives of ductility levels (intermediate and high), as defined in standard ۲۸۰۰. It is concluded that while all structures on the sites with soil class II demonstrate sufficient margin against collapse, taller structures on soil class III show lower than acceptable collapse margin. It is also noted that the collapse margin is generally reduced with the increased height of the structure.

## کلمات کلیدی:

Collapse Margin Ratio (CMR), Incremental Dynamic Analyses (IDA), RC Frames, Iranian Seismic Standard

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1299392>

