

## عنوان مقاله:

AN ENERGY-BASED DAMAGE DETECTION ALGORITHM BASED ON MODAL DATA

## محل انتشار:

هفتمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1394)

تعداد صفحات اصل مقاله: 7

## نویسندگان:

Seyed Reza SEYEDI - *M.Sc. Student of structural engineering, Shahrood University, Shahrood, Iran*

Ali KEYHANI - *Associate Professor of civil engineering, Shahrood University, Shahrood, Iran*

Hashem JAHANGIR - *Ph.D. Student of structural engineering, Ferdowsi University of Mashhad, Mashhad, Iran*

## خلاصه مقاله:

In recent years, significant efforts have been devoted to developing non-destructive techniques for damage identification in structures. Damage detection techniques based on modal testing rely on the fact that the occurrence of damage or loss of integrity in a structural system leads to changes in the dynamic properties of the structure. In this paper, an energy index based on mode shapes and their derivative is applied to detect damage in reinforced concrete beams. The effectiveness of the proposed methods is examined through analytical model on an RC beam. Results illustrate that the energy index is sensitive to damage, and the proposed method is simple and robust in locating single or multiple damages in a structure.

## کلمات کلیدی:

energy index, mode shape, modal strain, damage detection, damage severity

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1132433>

