

## عنوان مقاله:

Application of cyclic void growth model (CVGM) in simulation of ELCF fatigue in steel

## محل انتشار:

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## خلاصه مقاله:

Characterized by large-strain low-cycle conditions, earthquake-induced fractures are quite different from high-cycle fatigue fractures that have been extensively studied in bridges and mechanical components. Cyclic loading of structures due to earthquakes involves many fewer cycles (typically less than ten cycles) than conventional low-cycle fatigue and strains that are well in excess of yield. Such conditions can be termed as extremely-low-cycle fatigue (ELCF). This research develops and applies such models for simulating inelastic earthquake-induced fractures with an emphasis on ductile crack initiation due to monotonic and cyclic loading. A model termed cyclic void growth model (CVGM) has been proposed to simulate ELCF. The technique is an extension to previously published models that simulate ductile fracture caused by void growth and coalescence. The CVGM represents these underlying fracture mechanisms through plastic strain and stress triaxiality histories that can be modeled at the material continuum level .by finite-element analyses

## کلمات کلیدی:

Cyclic void growth model (CVGM), Extremely low cycle fatigue (ELCF), Cyclic loading, Damage Index

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1131643>

