

## عنوان مقاله:

Finite element modeling of RC beams composed of shape memory alloys

## محل انتشار:

سومین کنفرانس ملی پژوهش های نوین در مهندسی و علوم کاربردی (سال: 1400)

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## خلاصه مقاله:

Shape Memory Alloys, SMAs are one of the smart materials which have been used in reinforced concrete, RC structures in recent years. In this regard utilizing of such alloys in RC sections to improve the structural behavior has attracted the attention of researchers. The wide range of SMA applications is due to its significant unique material properties that behave super elastic and shape memory. Austenite and martensite phases are the conversions between two successive phases as different temperatures arise. Reduce in residual strain, proper energy dissipation capability (i.e. ductility considerations), resistance to fatigue and corrosion are other properties of these alloys. In this paper the Abaqus finite element modeling, FEM of RC beams reinforced with SMAs is investigated. The analytical results are also compared with the experimental results in which the concrete beams are reinforced with the SMAs, and it was concluded that displacement and energy ductility of Nitinol beams were increased compared to controlbeams. By increasing the diameter of Nitinol, displacement and energy ductility dropped, which might be due to .the increase in yield displacement

## کلمات کلیدی:

;prestressed; unbonded tendons; Continuous member; Self Consolidating Concrete

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1306513>

