

عنوان مقاله:

mathematical modeling of behavior of retrofitted RC frames

محل انتشار:

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خلاصه مقاله:

Due to several reasons as the low resistance of constructed concrete and also change in codes or application of structures, some concrete frames need to be retrofitted. By adding the steel prop and curb to the reinforced concrete, many parameters such as ductility, resistance, and stiffness change. This study numerically investigates the impact of adding the prop and curb, slit damper, gusset plate and also prop with a ductile ring on stiffness, resistance, energy dissipation and ductility of RC frames. For this purpose, the effect of the aforementioned methods on the linear and nonlinear moment frame behavior of reinforced concrete under monotonic loads have been numerically investigated using the ABAQUS software. In the present study 12 samples of reinforced frames with one story and one span retrofitted by different methods. The novelty of the paper was using such props and slit damper in RC frames. The results obtained from the modeling showed the retrofitted frame with a ring, slit damper and gusset plate also showed a better behavior in terms of resistance and stiffness compared to the RC frame and the sample with slit damper and prop with a ductile ring as well as compared to the sample with the prop and curb showed more ductility and energy .dissipation

کلمات کلیدی:

RC moment resisting frame, Ductile ring, Slit damper, Steel prop, Gusset plate

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