

## عنوان مقاله:

Static and dynamic nonlinear analysis of steel frame with semi-rigid connections

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## خلاصه مقاله:

One of the important issues in the study of steel frames is to find a suitable formulation for semi-rigid connections. In this paper, the explicit stiffness matrix for a two-dimensional beam-column element having end-flexibilities is derived. The effects of the lateral uniformly distributed load on the deflection are considered. Both tensile and compressive axial loads are also taken into account by one formula. By using the proposed stiffness matrix, some first-order, second-order, buckling, and dynamic analyses for semi-rigid frames are performed. The plastic analysis is also carried out using the plastic hinge approach. Comparing the calculated results with other references shows the accuracy and capabilities of the new element. Furthermore, the influences of the semi-rigid connections on the static and dynamic responses are investigated.

## کلمات کلیدی:

semi, rigid connection, Plane steel frame, Second, order effects, Buckling Analysis, Plastic Analysis, Dynamic analysis

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1390953>

