

A Boundary Element Application of Plastic Hinges Development in a Circular Ring

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Abstract

Circular ring is the most popular specimen in industry. The location of a crack in a circular ring can strongly affect the sequence of plastic hinge development which in turn affects stability of a circular ring which has been obtained theoretically in Young [1] but not any numerically. Boundary element method is employed to investigate these effects. In fact, the ring will collapse if the number of plastic hinges is up to four. The results show the potential application of the boundary element method in this project.

Keyword : Boundary Element Method, Plastic Hinge, Stability