

A Robust Software for Advanced Analysis of Space Steel Frames

Authors : Viet-Hung Truong, Seung-Eock Kim

Abstract : This paper presents a robust software package for practical advanced analysis of space steel framed structures. The pre- and post-processors of the presented software package are coded in the C++ programming language while the solver is written by using the FORTRAN programming language. A user-friendly graphical interface of the presented software is developed to facilitate the modeling process and result interpretation of the problem. The solver employs the stability functions for capturing the second-order effects to minimize modeling and computational time. Both the plastic-hinge and fiber-hinge beam-column elements are available in the presented software. The generalized displacement control method is adopted to solve the nonlinear equilibrium equations.

Keywords : advanced analysis, beam-column, fiber-hinge, plastic hinge, steel frame

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