



## Advanced Analysis for Three-Dimensional Semi-Rigid Steel Frames subjected to Static and Dynamic Loadings

By Phu Cuong Nguyen

GRIN Publishing Aug 2015, 2015. Taschenbuch. Condition: Neu. Neuware - Doctoral Thesis / Dissertation from the year 2014 in the subject Engineering - Civil Engineering, grade: 9.5, , course: Advanced Analysis of Steel Frames, language: English, abstract: The dissertation presents three various advanced analysis approaches which can capture accurately and efficiently the ultimate strength and behavior of steel framed structures with nonlinear beam-to-column connections subjected to static and dynamic loadings. Three major sources of nonlinearity are simultaneously considered in the analyses: (1) material nonlinearity; (2) geometric nonlinearity; and (3) connection nonlinearity. Three types of nonlinear beam-column element formulation considering both geometric and material nonlinearities are coded into two nonlinear structural analysis programs. Three types of steel frames analyzed by the developed programs are: (1) rigid frames; (2) linear semi-rigid frames; and (3) nonlinear semi-rigid frames. Three types of analysis can be performed: (1) nonlinear inelastic static analysis; (2) nonlinear elastic and inelastic time-history analysis; and (3) free vibration analysis. Three main resources of damping are taken into account in the developed programs are: (1) hysteretic damping due to inelastic material; (2) structural viscous damping employing Rayleigh damping; (3) hysteretic damping due to nonlinear beam-to-column connections. To solve nonlinear static equilibrium equations,...



**READ ONLINE**  
[ 7.37 MB ]

### Reviews

*If you need to adding benefit, a must buy book. I could comprehended every thing out of this composed e pdf. I am just very happy to tell you that this is the greatest pdf i have study inside my individual existence and could be he finest publication for at any time.*

-- Miss Laurie Waters IV

*Most of these publication is the greatest publication offered. It is actually rally intriguing throug reading period of time. You can expect to like just how the article writer create this publication.*

-- Eddie Schuppe