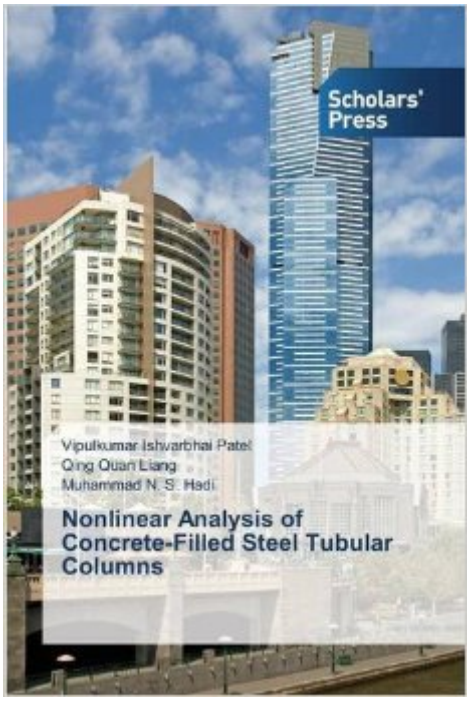
Nonlinear Analysis Of Concrete-Filled Steel Tubular Columns



Synopsis

High-strength thin-walled concrete-filled steel tubular (CFST) columns are widely used in modern composite buildings, bridges and offshore structures due to their high structural performance and construction advantages. Thin-walled CFST slender columns may undergo local and global buckling, which significantly reduces their strength and ductility. The nonlinear analysis and design of CFST columns with local buckling effects are highly complicated without the aids of computer programs. This book presents accurate and robust numerical models for simulating the behavior of normal and high strength thin-walled CFST columns incorporating the important effects of local buckling and concrete confinement. It describes the nonlinear analysis procedures and fundamental behavior of circular and rectangular CFST short and slender columns under various design actions, including axial load, uniaxial bending, biaxial bending, preloads, and cyclic lateral loading or combined actions. This book is written for practicing structural and civil engineers, students, and academic researchers who want to be familiar with the latest numerical analysis technologies for thin-walled CFST columns.

Book Information

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