Advanced Earthquake Engineering Analysis

During the last decade, the state of the art in Earthquake Engineering Design and Analysis has made significant steps towards a more rationale analysis of structures. Scientists have long recognized that earthquake design is guided by displacements and deformations rather than forces. However due to the historical background of structural engineers in static analyses, effects of earthquake on structures have been viewed as forces acting on the structures. All presently available design building codes are developed along these lines. Our knowledge of ground motion characteristics, earthquake geotechnical engineering, structural behaviour (design and numerical analyses) and model tests have advanced to a point where it is possible to anticipate a significant move from force based design approaches to displacements based design approaches. Although displacement based analyses constitute the kernel of most research programs, they have not yet been incorporated in the state of practice. The purpose of the book is to review the fundamentals of displacement based methods, starting from engineering seismology, earthquake geotechnical engineering, to focus on design, analysis and testing of structures with emphasis on buildings and bridges. EAN/ISBN : 9783211742143 Publisher(s): Springer, Berlin, Springer, Wien Discussed keywords: Erdbebensicheres Bauen Format: ePub/PDF Author(s): Pecker, Alain

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