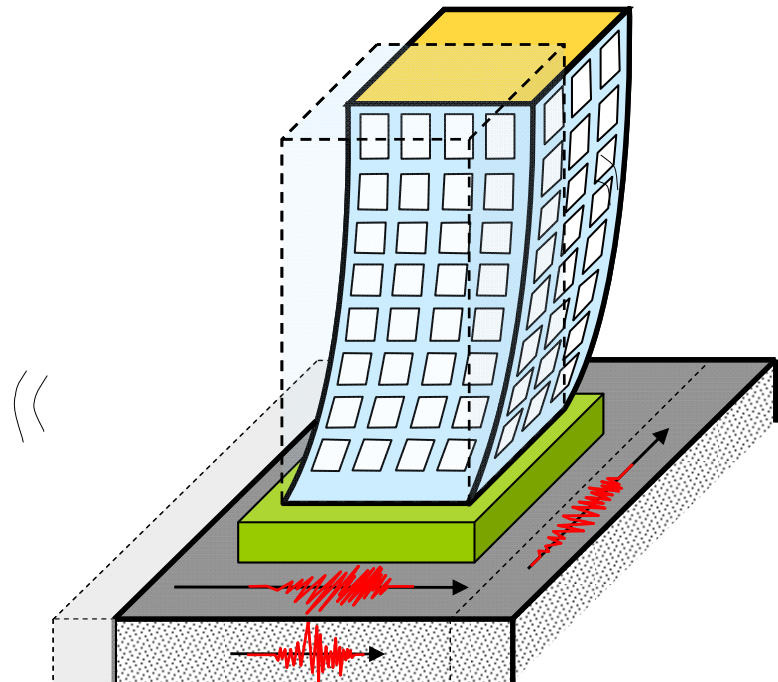


Some Concepts in Earthquake Behaviour of Buildings



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This book explains concepts in *behaviour* of buildings during earthquakes. The book dwells on basic concepts in earthquake resistant design of buildings, first describes these at a conceptual level and then articulates further with numerical examples. It is an attempt to respond to some of the frequently asked questions by *Architects* and *Structural Engineers* regarding behaviour of *Reinforced Concrete (RC)* and *Steel* buildings under the action of lateral loads, especially during earthquakes. Since most buildings built in India are made of RC, the dominant set of examples used is of RC buildings. But, with no loss of generality, the broad concepts discussed in this document are valid for both RC and Steel buildings. Also, the discussion is limited to normal buildings without any special devices, like *base isolation* and other *energy absorbing or dissipating devices*. Also, specialised systems (like post-tensioning slab systems and nuclear power plants) are not in focus.

This book employs *exaggerated deformation shapes* to emphasise deformations, and thereby, to develop the most needed intuition of structural behaviour of buildings during earthquakes and its consequences on earthquake-resistant design. The book contains animations related to behaviour of the various buildings models used in this work. Those readers seeing the electronic copy of this book should make special note of those pages titled **Animation Set ...**, to capture the hyperlinks and reach the said animations.

The target audience of the book is practicing *seismic structural engineers* and *architects*, in addition to *students* and *teachers of engineering and architecture colleges* striving to understand *seismic behaviour, analysis and design of buildings*.

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