Seismic Design of Buildings to Eurocode 8
Ahmed Y. Elghazouli
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Eurocode 8 is a part of the 1989 European directives. These directives, or codes, are a set of standards that make up 10 Eurocodes. One of the purposes of the codes is obvious. If the codes are complied with, there is a consistency produced which provides a sense of assurance that there is a uniformity of design in the European Community. Eurocode 8 deals specifically with structural design in seismic areas. The latest version of this code takes into account the resonance of structures, the lateral resistance of structures, and the damping provided from this resistance.

The nine chapters of this book, written by a combination of 14 authors, comprise a treatment of seismic design from the motion of the ground to the motion of the buildings. The chapters taken together are quite inclusive. The chapter titles show the volume is pretty comprehensive:

1- Introduction to design and Eurocode 8
2- Hazards and earthquake motions
3- Structural analysis
4- Basic seismic design of buildings
5- Concrete structure design
6- Steel structure design
7- Composite steel/concrete structures
8- Shallow foundations
9- Pile foundations

As in many compilations, with chapters written by different authors, the styles of each chapter in this book vary; some more technical than others. But the volume is a good self-contained discussion of the requirements for seismic design.

The book is not chock full o' equations. Hardly, for except for some imposing equations when discussing probabilistic approaches, for some of the simpler, basic equations (and responses) of SDoF and MDoF systems, and for some design equations, the book is mostly descriptive and explanative in nature, with the well-written paragraphs, and the 150 or so clear, illustrative figures explaining the many concepts.

I suspect one issue for readers in N. America is if this book dealing with Eurocode 8 really applies to us. There is an attitude here that what is done here is the best. I don't think this is correct in many, many areas. If you agree or not, the valuable content in "Seismic Design of Buildings… "applies to all seismic design and provides sufficient insight to gain understanding of the requirements needed to design structures subject to ground movement.

This is not a text book as it has no problems to be assigned at the end of each chapter. But it could be used as one, in a senior-level or graduate level course on seismic design. It would also be most useful for the practicing engineer because the many practical and worked-out examples help make the approaches concrete and useful.

Highly recommended.

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