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Comparative Studies on Multi-Story RC-Buildings Exposed to Earthquake Actions

(Vergleichende Untersuchungen von Stahlbetongeschossbauten unter der Einwirkung von Erdbeben)

Earthquake is a decisive action in many areas. Multi-story buildings are especially vulnerable. Reinforced concrete is basically adequate to withstand the demands from earthquake actions. But special care has to be taken regarding analysis, design and construction to avoid a collapse.

In the present thesis two alternatives of a reinforced concrete multi-story building – 3 floors and 6 floors but same total floor space with adapted ground plot, – have to be investigated. This includes evaluation of basics with special respect to earthquake, predesign, structural analysis – quasi-static with equivalent loading, dynamic with time history of ground acceleration, linear and nonlinear with respect to material behavior –, and design of reinforcement. The different models and their results should be compared and estimated

Contact person: Prof. Dr.-Ing. habil. Ulrich Häußler-Combe
Tel.: 0351 463-39586
uhc@mailbox.tu-dresden.de

Dipl.-Ing. Daniel Karl
Tel.: 0351 463 36912
Daniel.Karl1@tu-dresden.de

