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Keynote Paper

Advances in Collapse Simulation of Reinforced Concrete Frame Buildings under Seismic Loads

*Sashi K. Kunnath[1)], Andrea Lucchini[2)] and Jin Zhou[3)]

[1), 3)] *Department of Civil and Environmental Engineering, University of California, Davis CA 95616, USA*
[2)] *Dipartimento di Ingegneria Strutturale e Geotecnica, Facoltà di Architettura, Sapienza Università di Roma, Italy*

1) skkunnath@ucdavis.edu

ABSTRACT

Past and current efforts to simulate the collapse response of reinforced concrete components and buildings subjected to seismic loads are summarized. Both detailed continuum models of single components and frame idealizations of building frames are discussed. Particular emphasis is placed on incremental dynamic analysis (IDA) and the development of collapse fragility curves. Some key factors that influence the generation of IDAs and consequently the collapse fragility of a building are highlighted.

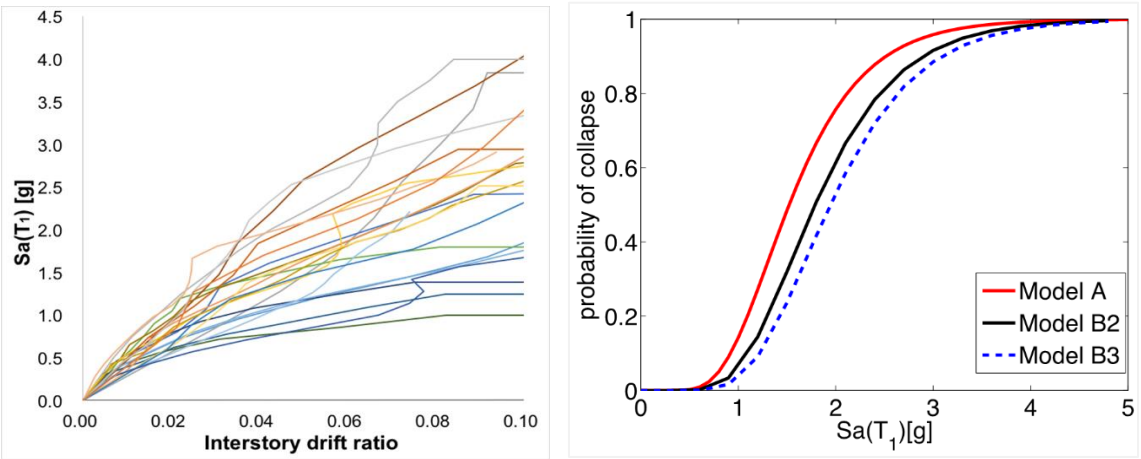

Fig. 1. IDA curves and comparison of collapse fragilities using different models