



Near-Fault effects on the low-frequency nonstructural components and systems in high- rise buildings

Topic (1): structural safety under near-fault and/or multiple hazards
threat, and disaster mitigation strategies for improving resilience

Effects of Damaged NSCs on Occupants

Influence on Expected Building Performance

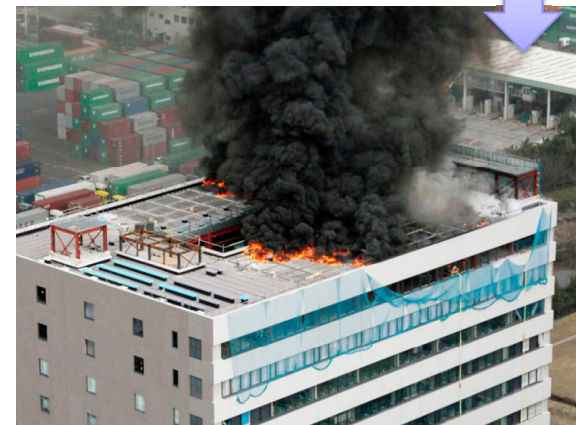


Life Safety

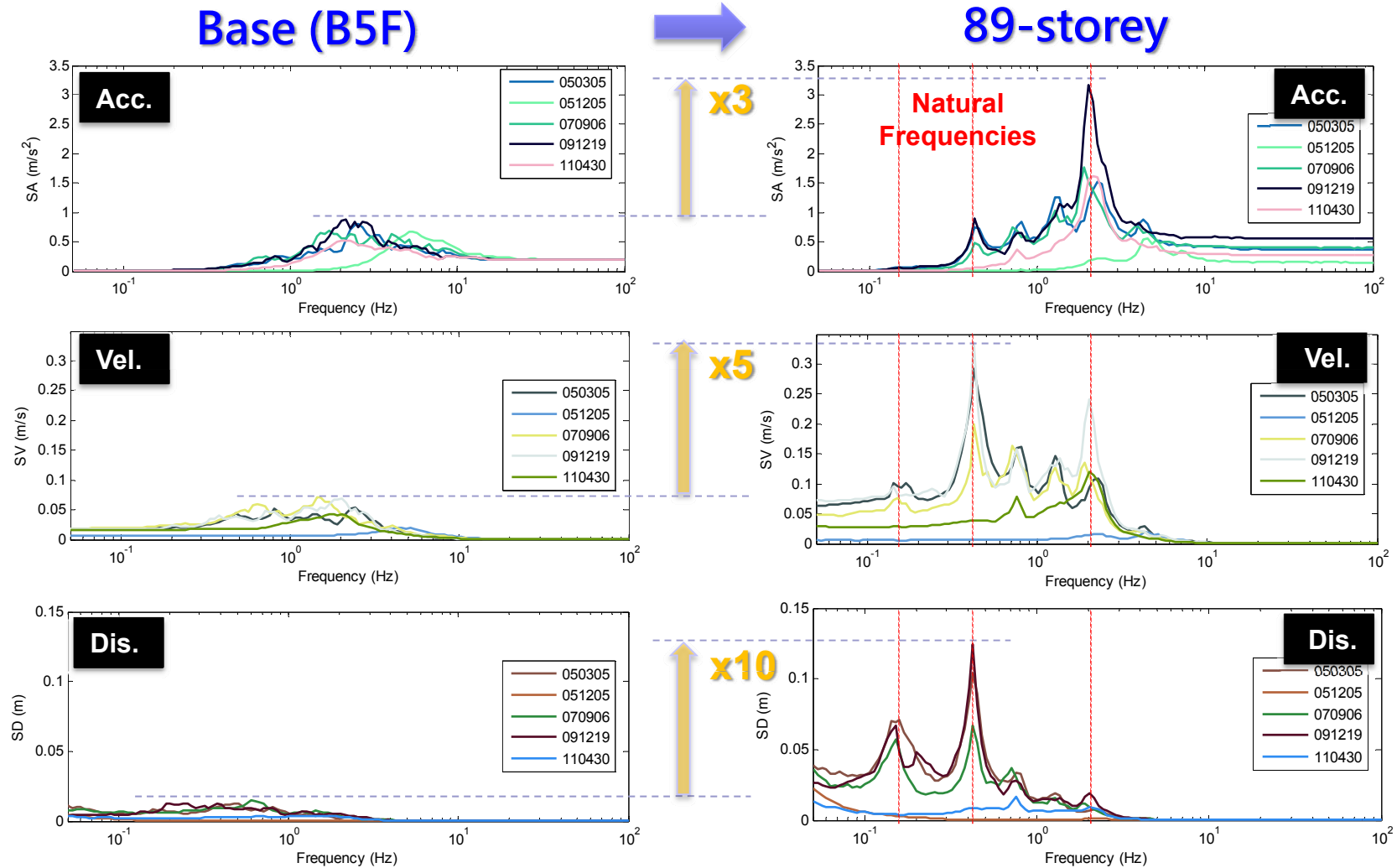


Critical Function

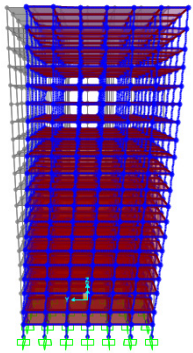
Unable to Prevent Multiple hazards threat



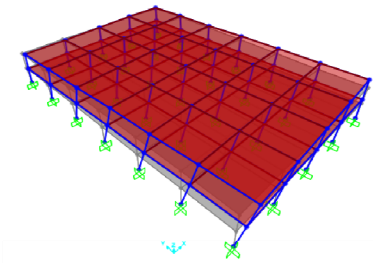
Characteristics of Responses of High-Rise Buildings



Difference between High-Rise and Low-Rise Building Responses

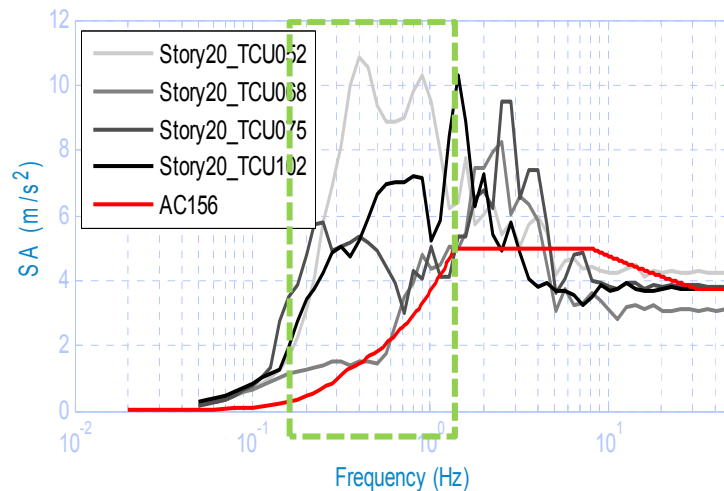


SAC 20-storey building

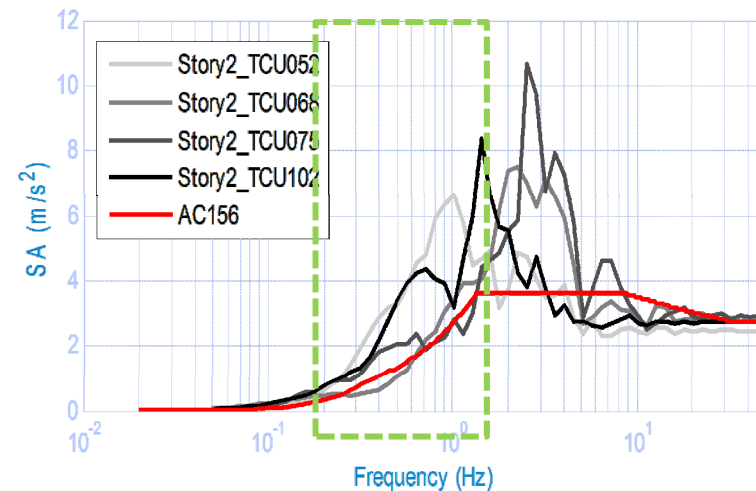


SAC 2-storey building

Significant Effects of High-Rise Building Responses on the OFCs lower than 1Hz



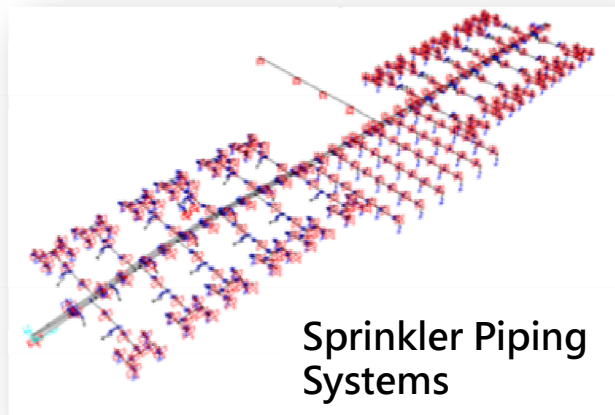
20-storey building



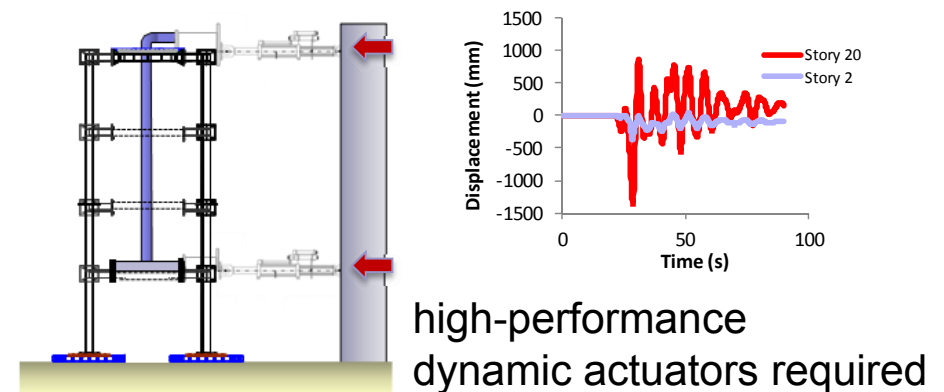
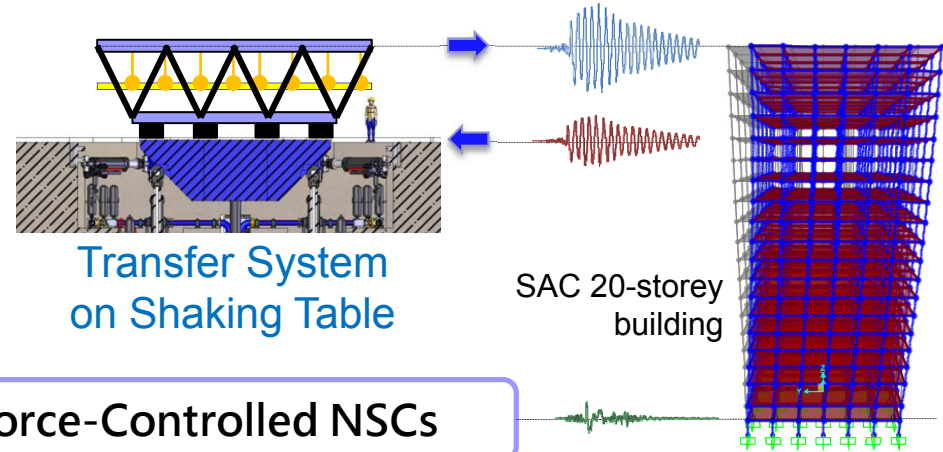
2-storey building

* Data offered by Vielicenia Sindynata

Dynamic Loading Tests for NSCs



Critical and Vulnerable NSCs



•Both Force- and Displacement-Controlled NSCs

Discussions