

# NAKANO LAB.

## [Seismic Damage Estimation of RC Building Structure]

Department of Fundamental Engineering

<http://sismo.iis.u-tokyo.ac.jp/>

Earthquake Engineering / Structural Engineering

Faculty of Engineering,  
Dept. of Architecture

### Damage Estimation of Reinforced Concrete Building Structures During Earthquakes

On the subject of STRUCTURAL ...

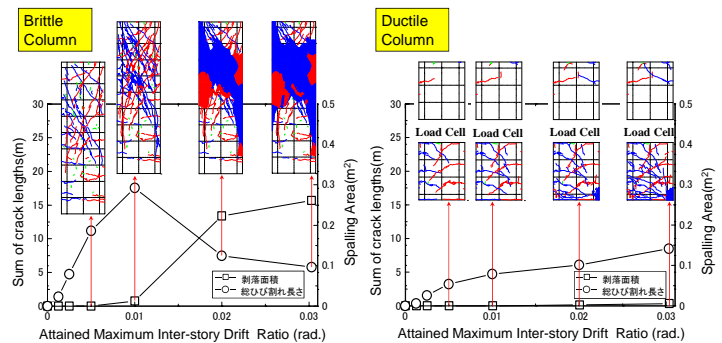
**MEMBER** : Seismic Damage Evaluation of Brittle and Ductile members

**FRAME** : Seismic Performance Evaluation of RC Frames with URM Infill

**SYSTEM** : Residual Displacement Prediction applying the Capacity Spectrum Method



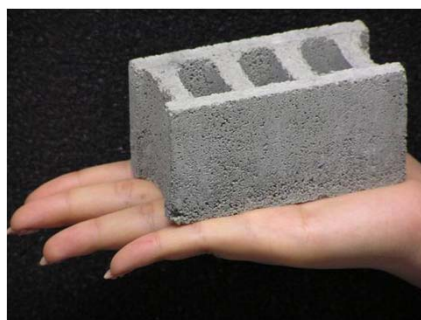
Damage after IDR=1/33rad.



Damage Propagation due to the Attained Max. IDR



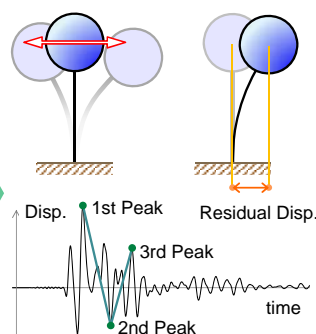
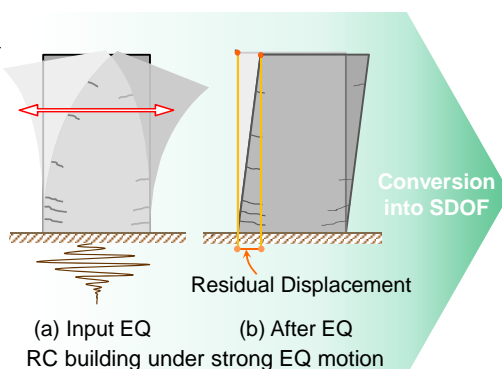
1/4 scaled specimens



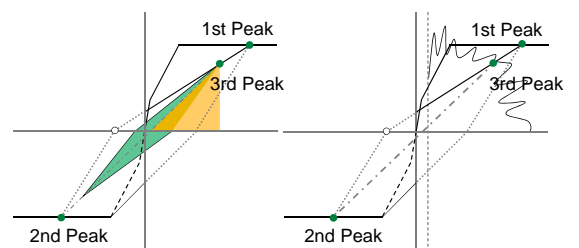
1/4 scaled concrete block



Test Setup



Obtain the residual disp. via non-linear time-history analysis



3 peak displacements are key to predict the residual disp. using a spectrum method

Residual disp. prediction applying & enhancing the capacity spectrum method