Seismic Performance Evaluation of Reinforced Concrete Building Structures

- MEMBERS: Evaluation of Residual Axial Capacity of Shear Damaged RC Columns
- SUB-ASSEMBLAGE: Out-of-plane Behavior Evaluation of Masonry Wall Infilled RC Frames
- OVERALL STRUCTURE: Response Evaluation Method of Buildings due to Waterborne Debris Impact Load
- INTERNATIONAL COOPERATION: Project for Technical Development to Upgrade Structural Integrity of Buildings in Densely Populated Urban Areas and its Strategic Implementation towards Resilient Cities

Test Setup & Specimen after Axial Failure

The proposed method have a high accuracy to estimate residual axial capacity

Ratio of Evaluated-to-Measured Residual Axial Capacity

Science and Technology Research Partnership for Sustainable Development (SATREPS)
Project for Technical Development to Upgrade Structural Integrity of Buildings in Densely Populated Urban Areas and its Strategic Implementation towards Resilient Cities

Joint Research Group

- Japan
  - IIS, The Univ. of Tokyo
  - Tohoku Univ.
  - Osaka Univ.
  - etc.

- Bangladesh
  - Housing and Building Research Institute
  - Public Works Depart.
  - Univ. of Asia Pacific
  - etc.

Testing on RC frame with masonry in fill wall at Tohoku University

Testing on RC column@BUET

Weak Column Frame
Strong Column Frame

Application on Non-destructive test method in Dhaka

Less possibility to building collapse if 5000 ton ship collided.

Damage to Masonry Wall with without Reinforcement

Base Shear Requirement according to tonnage of ships (solid: 5000 ton, dotted: 4000 ton)