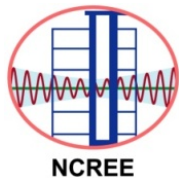


Research Needs for Wall Behavior

Shyh-Jiann Hwang



Director of NCREE

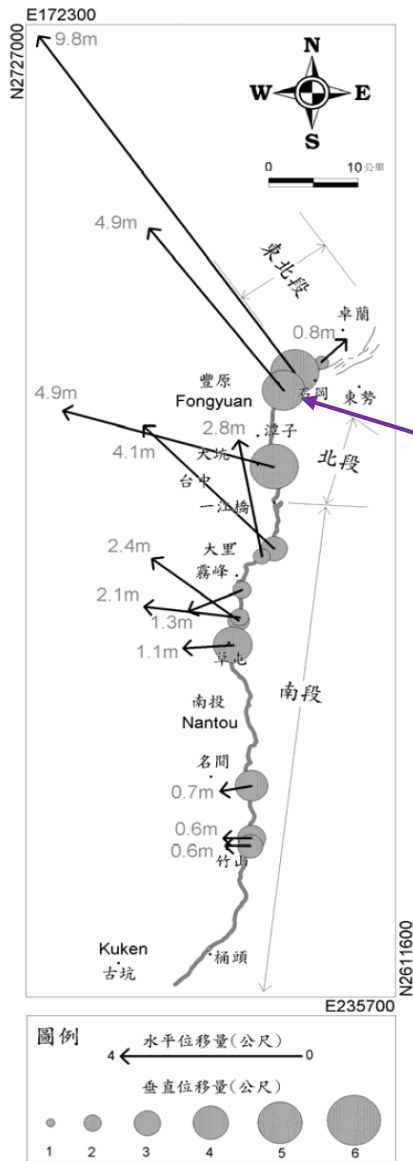


Prof. of National Taiwan University

NCREE Tainan Laboratory Grand Opening Forum

Influence of Near Fault Earthquake on Low-rise RC Buildings

- Non-ductile low-rise RC buildings
- Insufficient shear strength of columns
- Participation of infilled walls with openings



Special Feature of Residential Buildings

School Building



Columns on windowsill

Open space

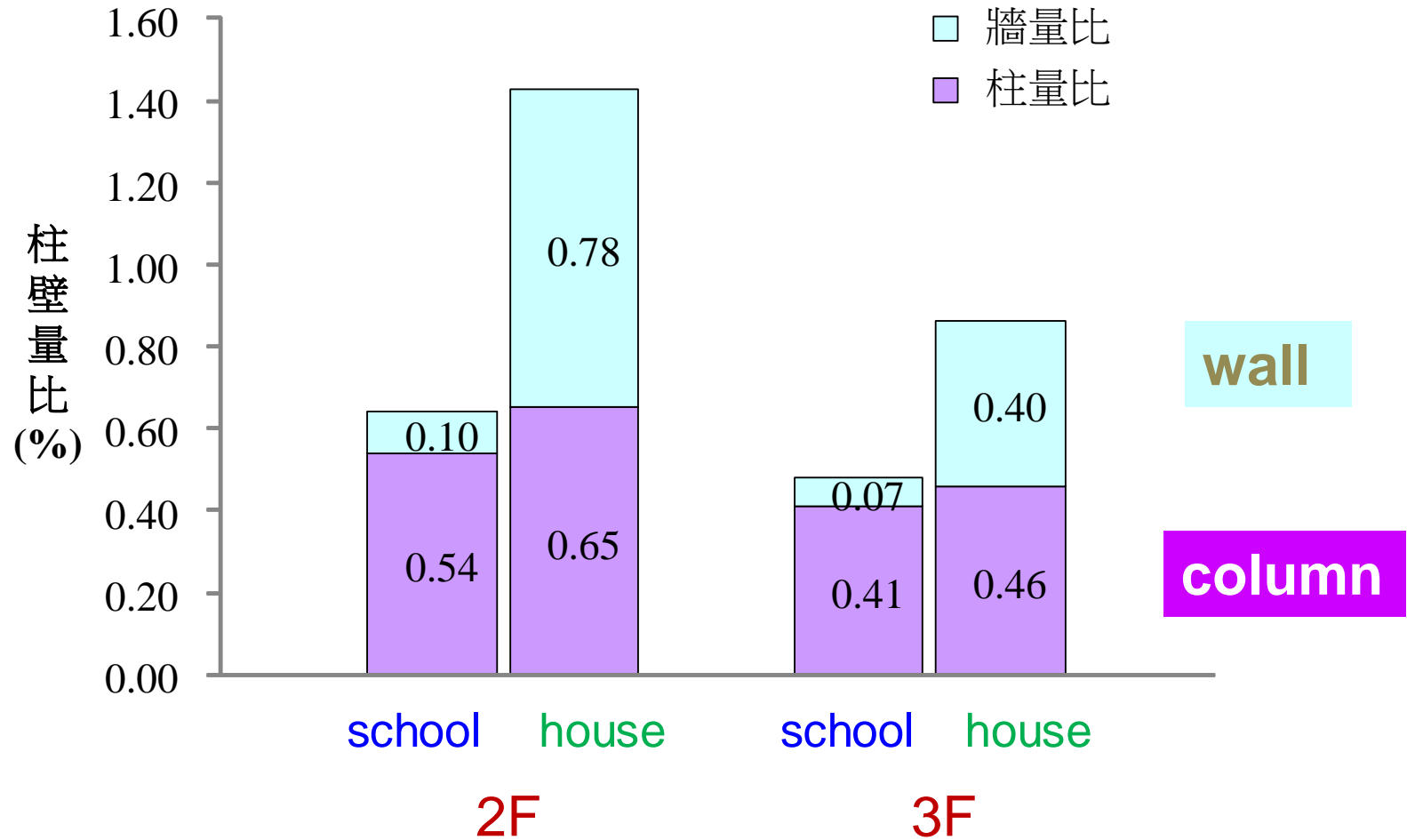
Street Townhouse



Infilled walls with openings

Private room

Significant Wall Ratio of Residential Buildings



$$\text{column (wall) ratio} = \frac{\text{total column (wall) area at 1F}}{\text{total floor area above 2F}}$$

Buildings under Near-Field Earthquakes

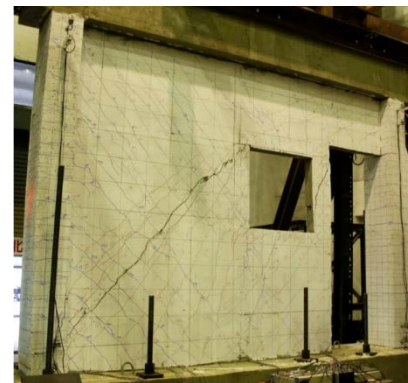
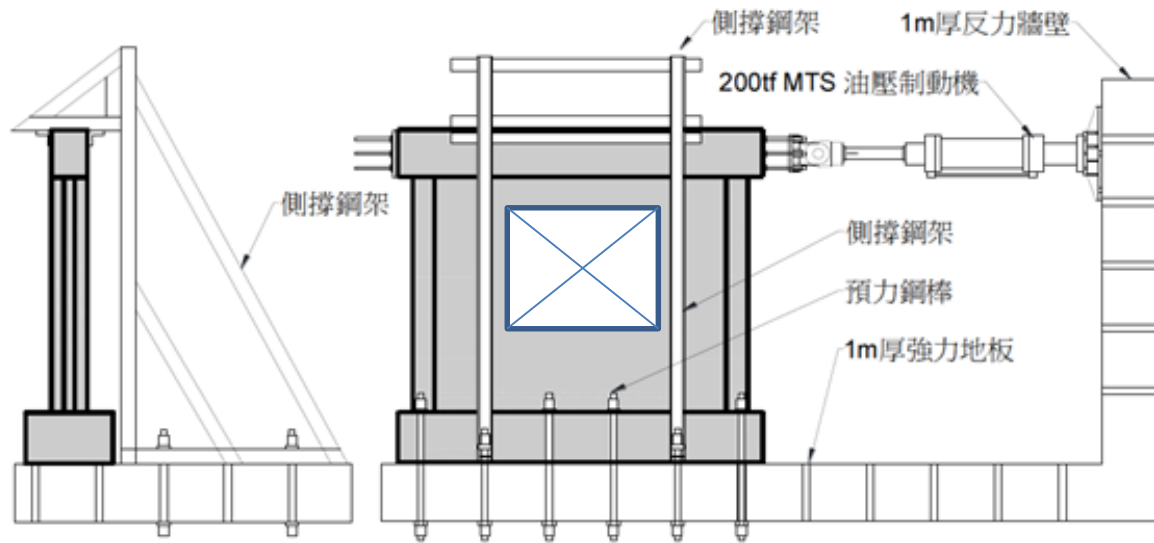
1. Beneficial effects provided by walls.
2. Wall can enhance the capacity and integrity of buildings.



Test of Brick Infills



Test of Wall with Openings



Research Needs for Wall Behavior

- Collapse behavior of shear critical walls
- Seismic capacity of brick infills
- Seismic capacity of RC walls with openings
- Seismic retrofitting of walls

