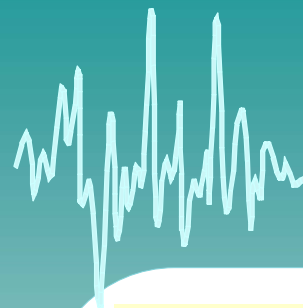


# Cyclic Test Facility

Structural Engineering Laboratory

Department of Civil Engineering, Indian Institute of Technology Kanpur



## Load Application through Servo-hydraulic Actuators



### MTS Actuators of different ratings:

- 2 no. 1000 kN, 500 mm stroke, static
- 1 no. 500 kN, 250 mm stroke, static
- 1 no. 250 kN, 250 mm stroke, dynamic
- 2 no. 100 kN, 150 mm stroke, static
- 1 no. 50 kN, 150 mm stroke, dynamic

### Controllers:

MTS Flex Test GT, 407, and 458.10 with a capability to control 6 actuators simultaneously

### Hydraulic Power Supply:

Pump Flow: 235 L/min @ 2.1 MPa

### Accumulators:

As per the requirements of different actuators

### Hydraulic Service Manifold:

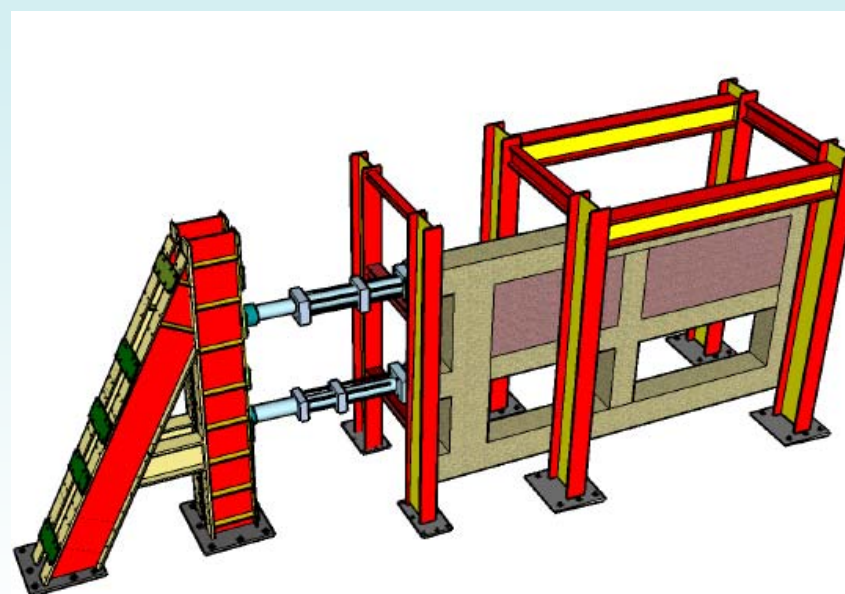
4 Station and 3 Station



## Strong Floor and Reaction Frames



Double box type of structural floor of size 20m x 8.5m designed to carry reversal of loads (180 kN in tension/compression) at every 0.5 m anchor holes in both directions



### Reaction Frame

Fabricated in-house using ISMB600 sections for all members  
Height: 4.2 m, Lateral load: 4000 kN and  
Overturning moment capacity: 6000 kNm

## Data Acquisition & Sensors

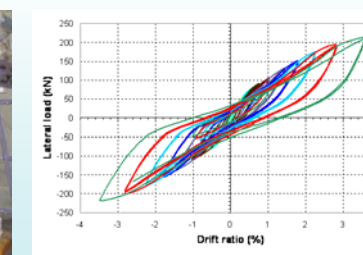
Various types of force, displacement, pressure and strain sensors

60 Channel System500, Measurement Group

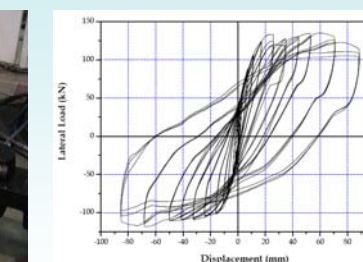
128 channel system, PXI-based, National Instruments



## Test Examples



RC frame strengthened with steel jacking and AI-SYD Device



External Steel Jacking of RC Columns