NCREE Tainan Laboratory Grand Opening Forum

Seismic Retrofit and Repair of Building Structures

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Seismic Resilience

- New Construction
- Existing Building Structures

Taiwan

- Existing School Buildings
- Apartment Buildings



(1989 Chi-Chi Earthquake)

USA: New Construction

- ➤ 1994 Northridge Earthquake SAC Joint Venture
- ➤ AISC Seismic Provisions for New Construction (Since 2005)
 - Existing Systems (SMF, SCBF, EBF)
 - Buckling-restrained Braced Frames
 - Special Plate Shear Walls

USA: Existing Buildings

- ➤ ASCE 41, "Seismic Evaluation and Retrofit of Existing Buildings" (2006, 2013)
 - Performance-Based
 - Based on Limited Test Data

Research on Existing Braced Frames

Concentrically Braced Frames

UC Berkeley (Mahin)

Univ. of Washington (Roeder)

Univ. of Illinois (Fahnestock)

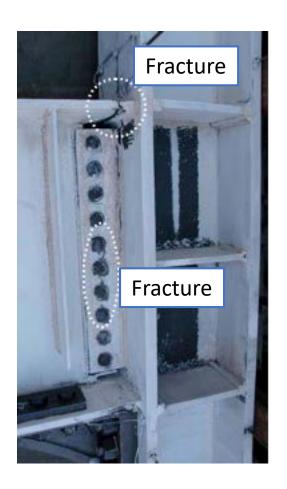
> EBF



Research on Existing SMF

- > SMF (1988–1993)
 - SAC Study (FEMA 351)
 - Weak Panel Zone





Research on Existing SMF

> SMF (1960s)





SMF with Deep Columns

