

OBSERVATIONS AFTER 5/12/2008 WENCHUAN EARTHQUAKE BASED ON FIELD RECONNAISSANCE FROM 7/4/2008 TO 7/7/2008

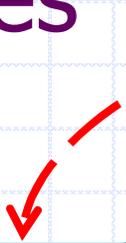
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Acknowledgements

Office of International Strategy Development, UC Office of the President (UCOP);
Center for Information Technology Research in the Interest of Society (CITRIS), UC Berkeley;
Prof. Jian-hui Deng, Prof. Bixiong Li, Prof. Ping Guan, and Prof. Shijing Yan, Sichuan University;
Office of the President and International Office, Sichuan University, Chengdu, China



Visited Cities



More Information ...

- ❑ Presentation file by Mosalam and Sitar:

<http://peer.berkeley.edu/pdf/5-12-Wenchuan-mosalam-sitar-new.pdf>

- ❑ Papers to appear in proceedings of 14WCEE, Beijing, 2008

- ✓ Li, B., Wang, Z., Mosalam, K.M., and Xie, H. (2008) "Wenchuan Earthquake Field Reconnaissance on Reinforced Concrete Framed Buildings With and Without Masonry Infill Walls," Proceedings of 14WCEE, Beijing, 12-17, October, Paper #S31-035.
- ✓ Li, B., Wang, Z., Mosalam, K.M., Wang, X., and Wei, Z. (2008) "Analysis of Stairwells Performance and Damage During Wenchuan Earthquake," Proceedings of 14WCEE, Beijing, 12-17, October, Paper #S31-005.

Dujiangyan Town (Poor vs. Good Performance)



Dujiangyan Town (Poor vs. Good Performance)

Building 1 (6 story with "open" parking in first story)



Column hinging

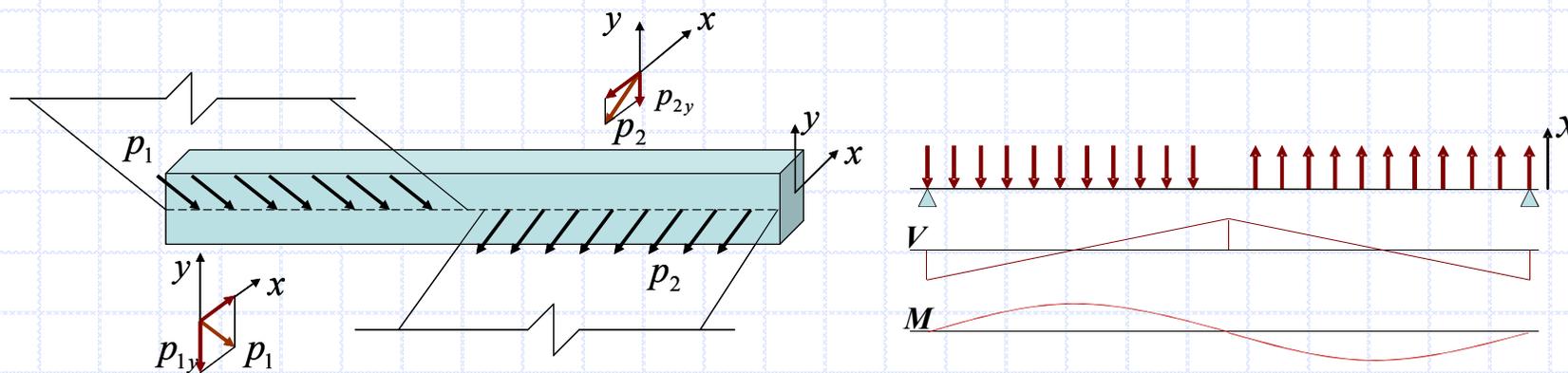
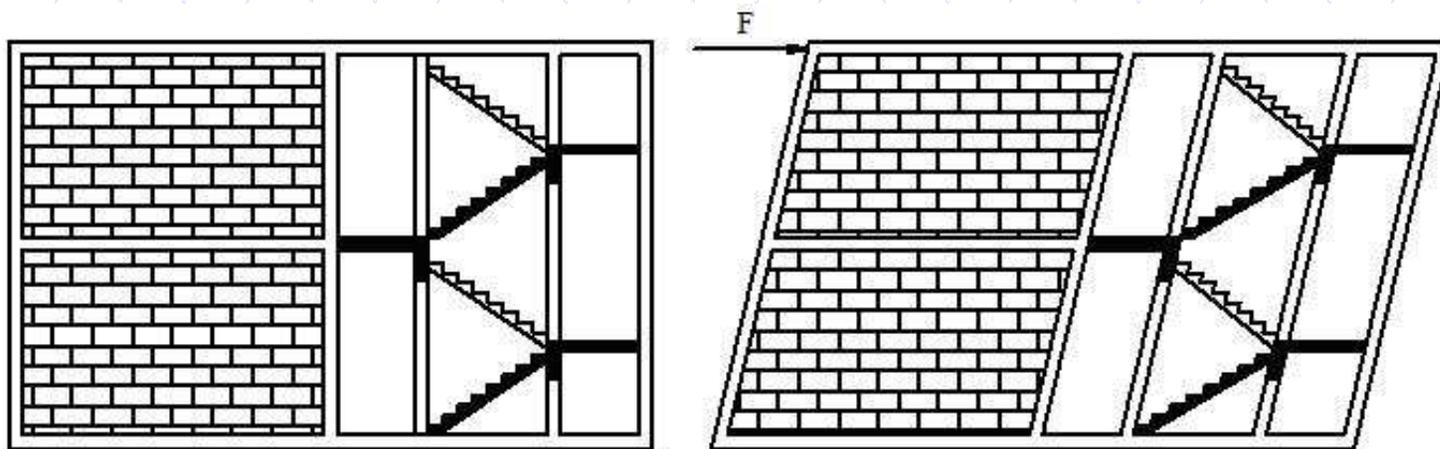
Dujiangyan Town (Poor vs. Good Performance)

Building 2 (5 story some infill walls in first story)

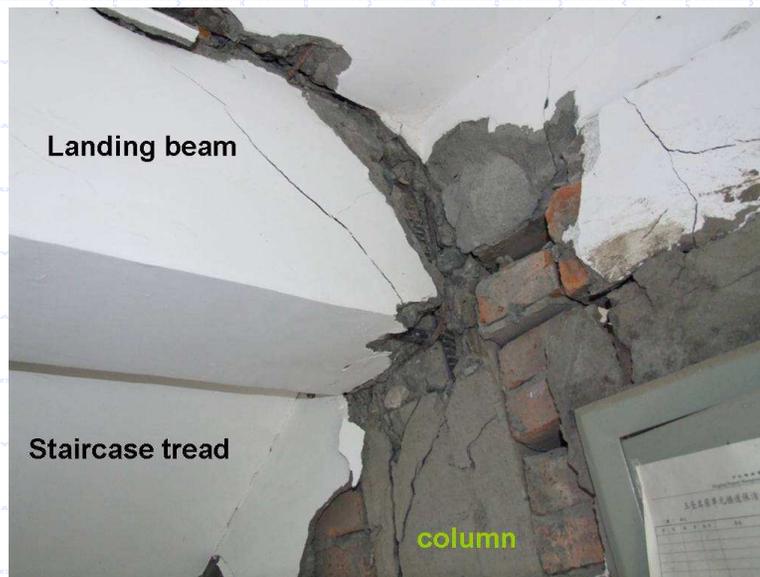
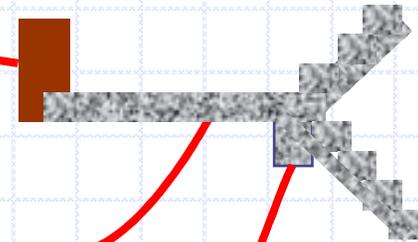


First story infill cracking

Seismic Performance of Stair Wells



Performance of Stair Wells in Dujiangyan Town



Concluding Remarks

1. Poor construction practice and inadequate seismic design levels† are the main reasons for most of the building collapses.
2. Short columns, strong-beam/weak-column, use of inconsistent masonry walls, disregard of infill walls in design are main reasons for the widespread damage in the epicenter region.
3. Types of stairwell damage when a building is shaken in the transverse direction (parallel to tread depth) are:
 - I. flexural damage in staircase treads,
 - II. shear damage at construction interface of staircase treads,
 - III. shear failure in landing beams
 - IV. crushing in staircase treads/landing beams joints

†On June, 19, 2007, China Earthquake Administration (CEA) modified the seismic zonation map for the affected region.

Thank You!

