

CIVL7119/8119
Homework Set 13

The portal frame in the figure is located in Memphis (35.11 Lat. -89.94 Long.).
Compute the confidence levels on having:

- Less than 5% probability of a performance poorer than Collapse Prevention (CP) in 50 years life cycle of the building, and
- Less than 50% probability of having a performance poorer than Immediate Occupancy (IO) in 50 years.

Use *LSP*.

Assume first mode equivalent damping ratio of 8%. Shear wave velocity at the site is measured 2000 *ft/sec*. Assume post-Northridge pre-qualified dog-bone moment connections in a shear building.

