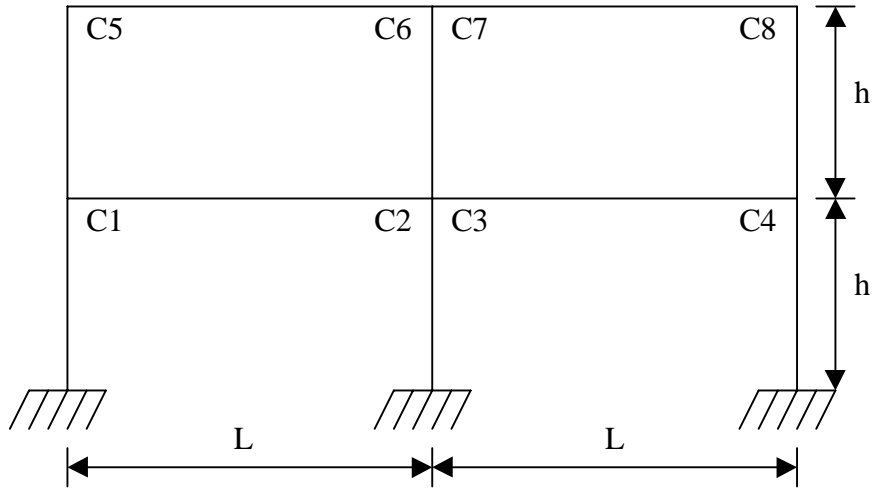
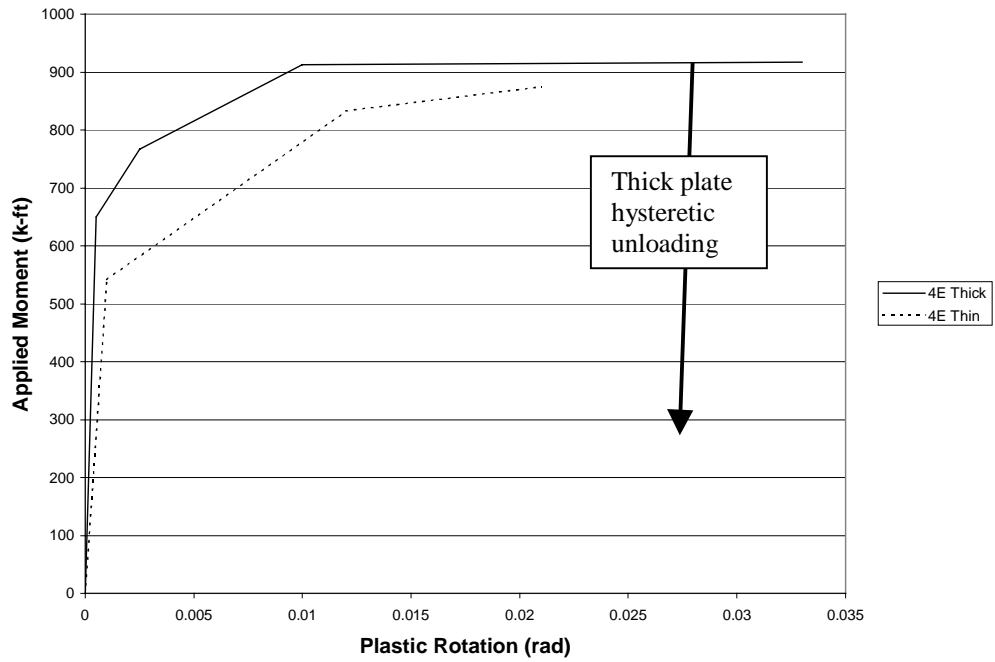


(a)

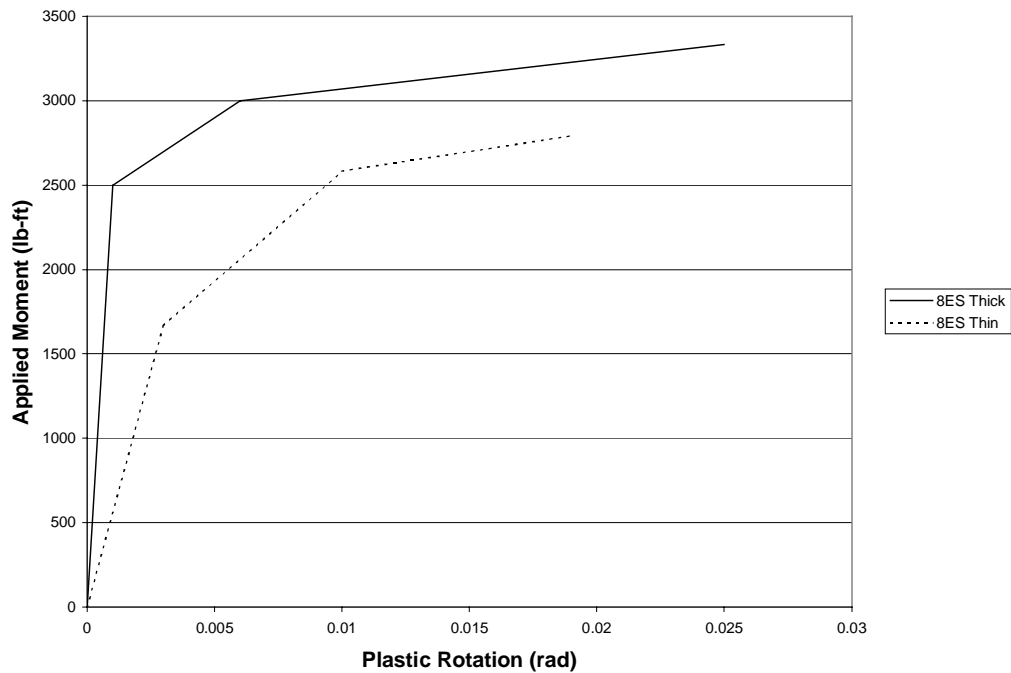


(b)

FIGURE 8-23. Geometric configuration of lateral force resisting system and connection numbering scheme for frames containing (a) four-bolt extended and (b) eight-bolt extended stiffened moment end-plate connection systems.



(a)



(b)

FIGURE 8-24. Backbone of moment vs. plastic rotation at column web centerline for (a) 4E and (b) 8ES SAC specimens (from experimental testing).

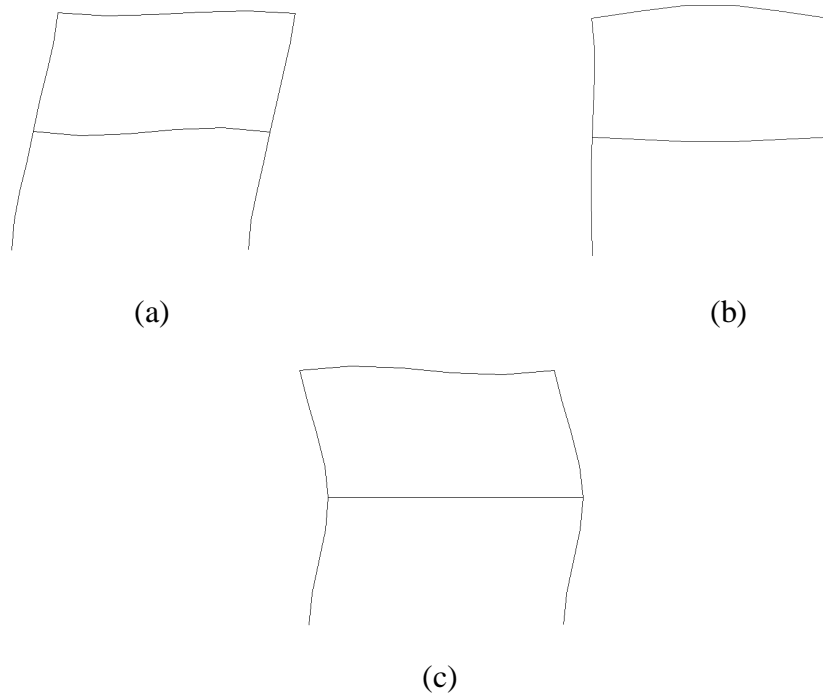


FIGURE 8-25. First three mode shapes for 4E frame.

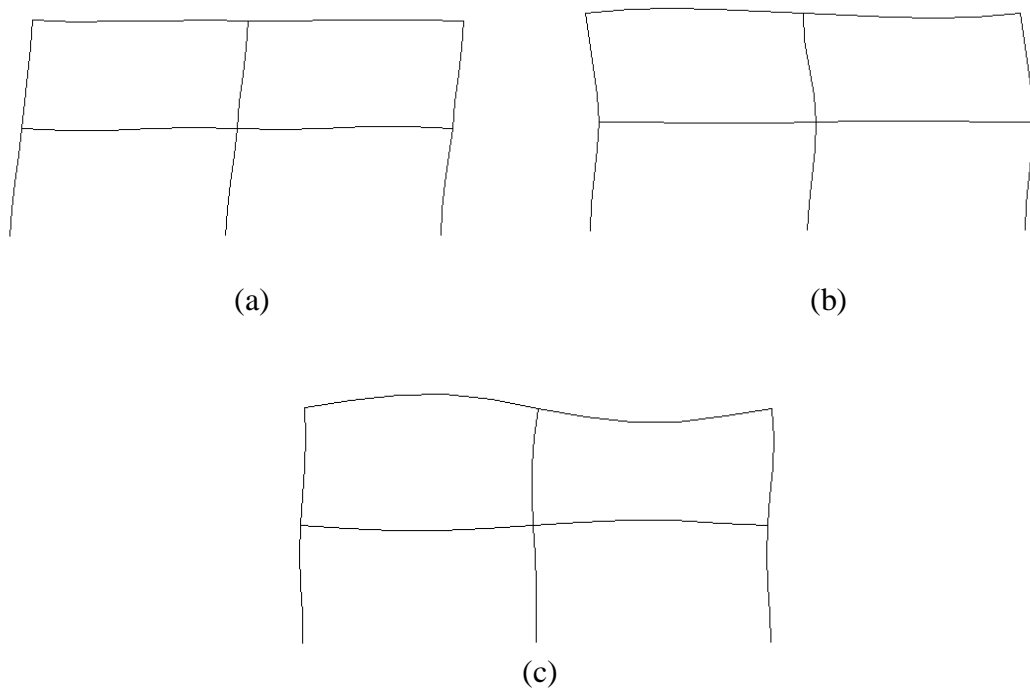
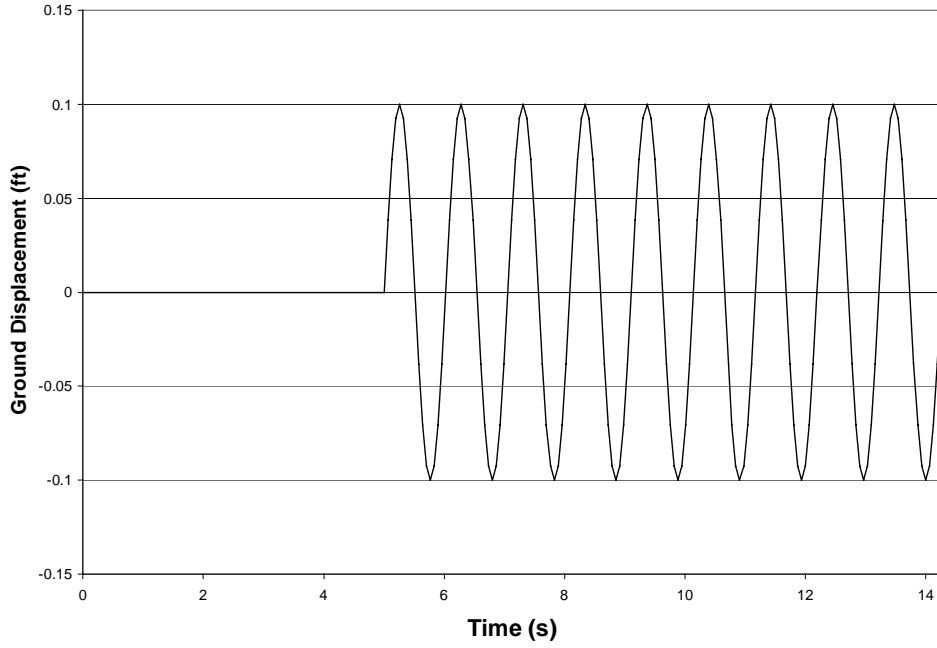
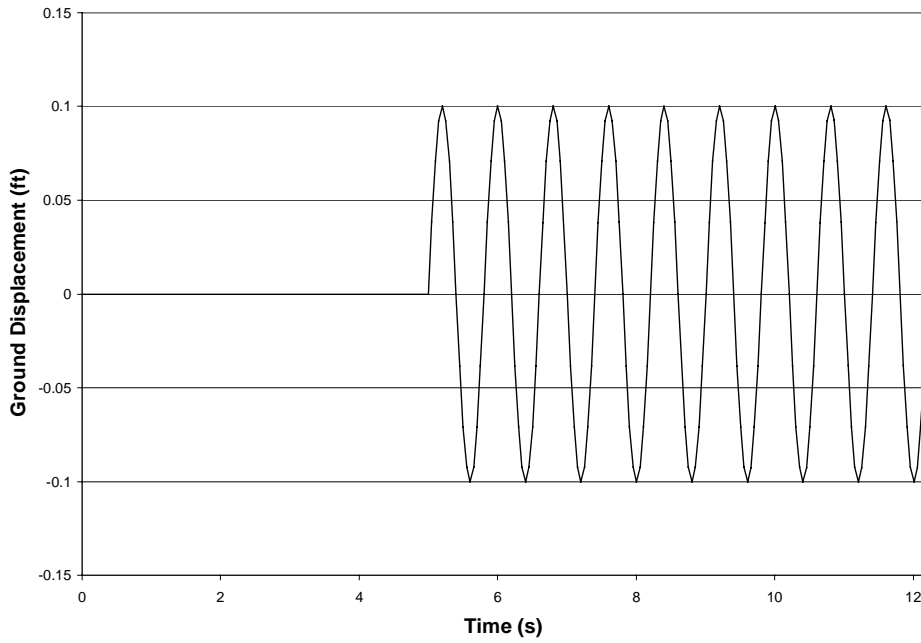


FIGURE 8-26. First three mode shapes for 8ES frame.



(a)



(b)

FIGURE 8-27. Ground displacement vs. time for (a) 4E frames and (b) 8ES frames.

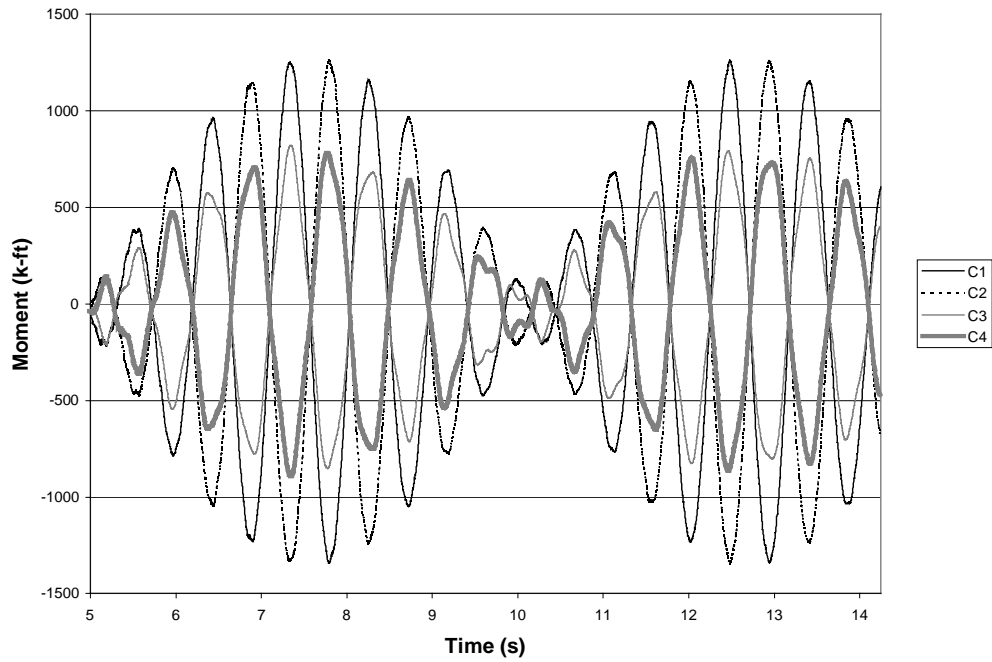


FIGURE 8-28. Moment occurring at each connection vs. time for the 4E (fully restrained/elastic connection) frame.

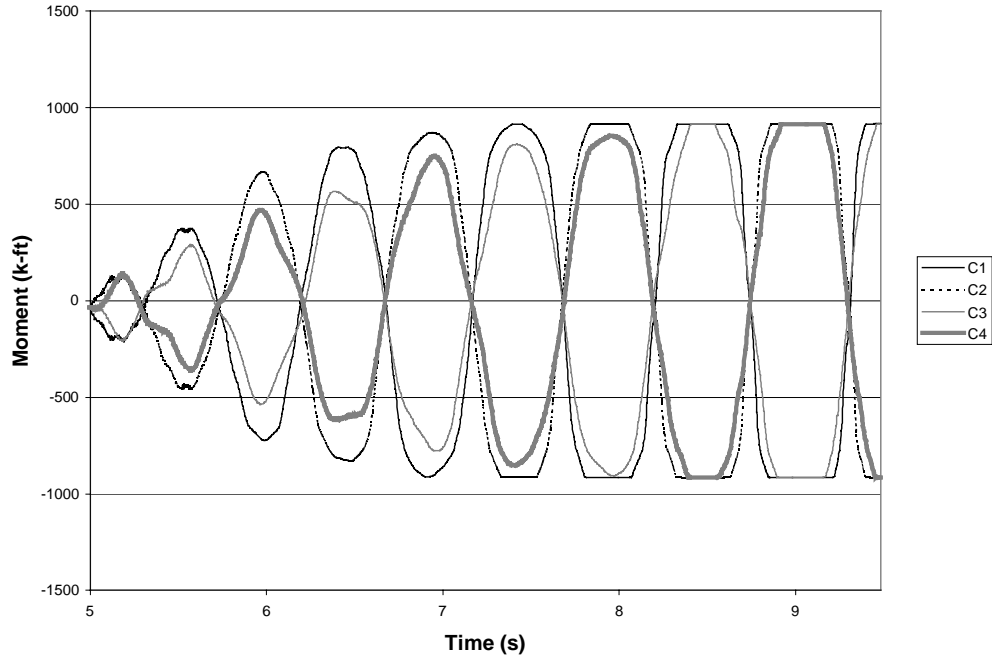


FIGURE 8-29. Moment occurring at each connection vs. time for the 4E (partially restrained/thick plate) frame.

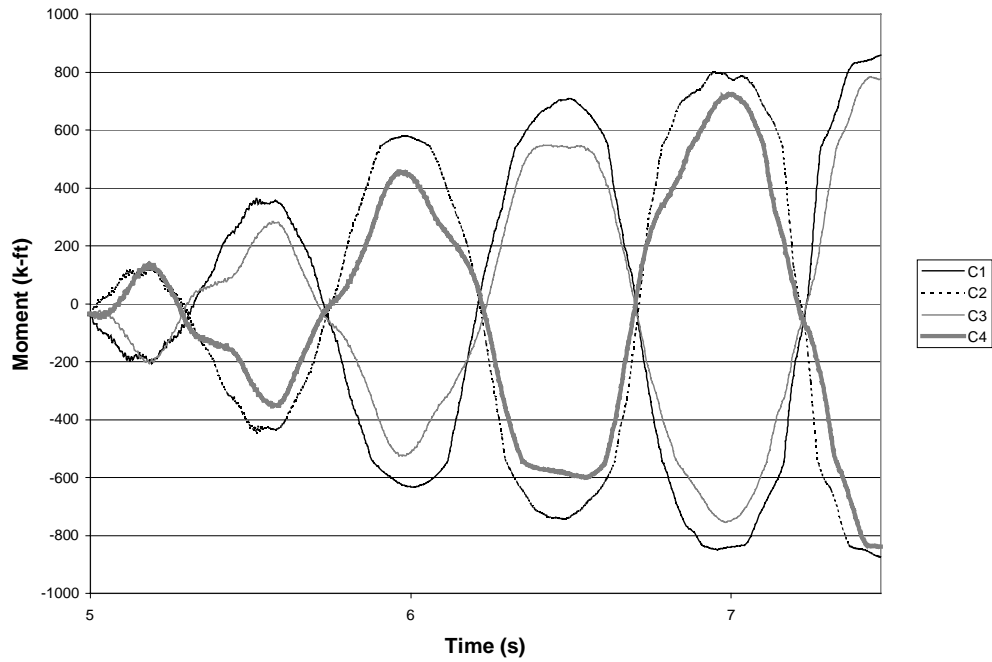


FIGURE 8-30. Moment occurring at each connection vs. time for the 4E (partially restrained/thin plate) frame.

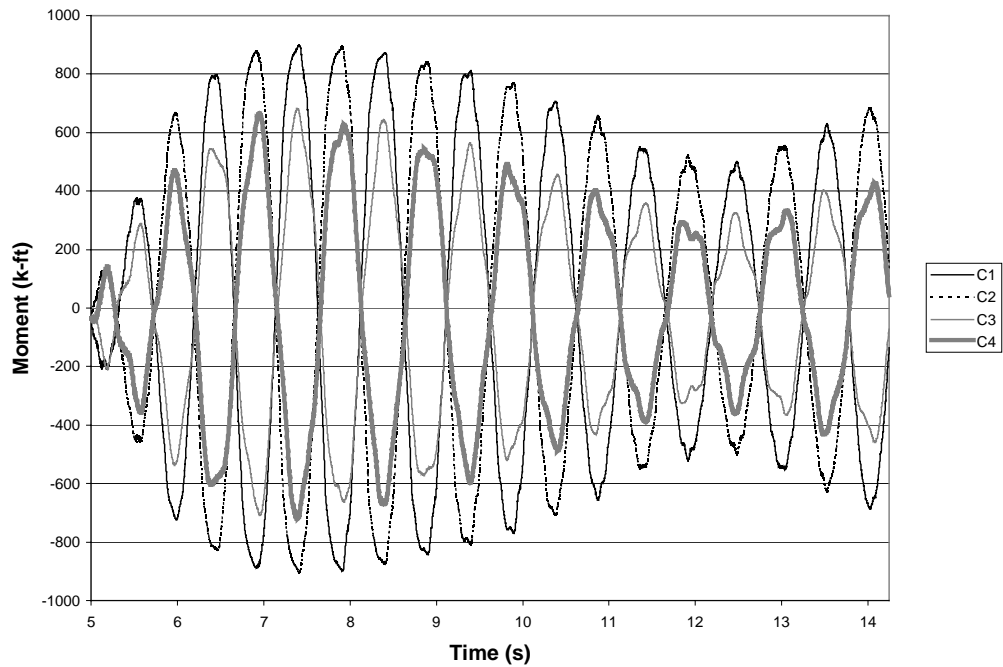


FIGURE 8-31. Moment occurring at each connection vs. time for the 4E (hysteretic behavior/thick plate) frame.

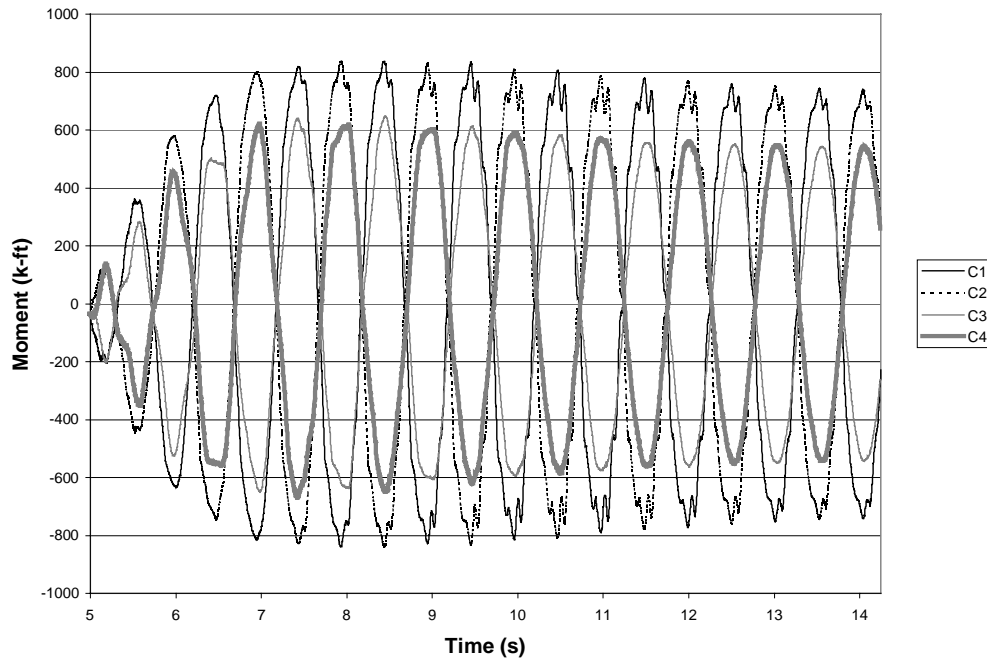
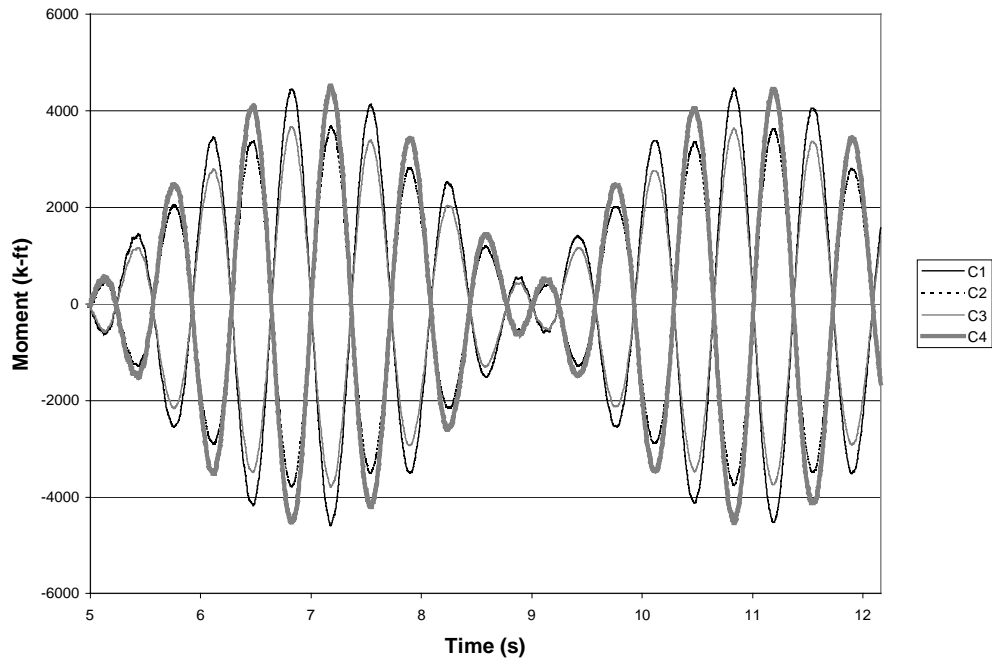
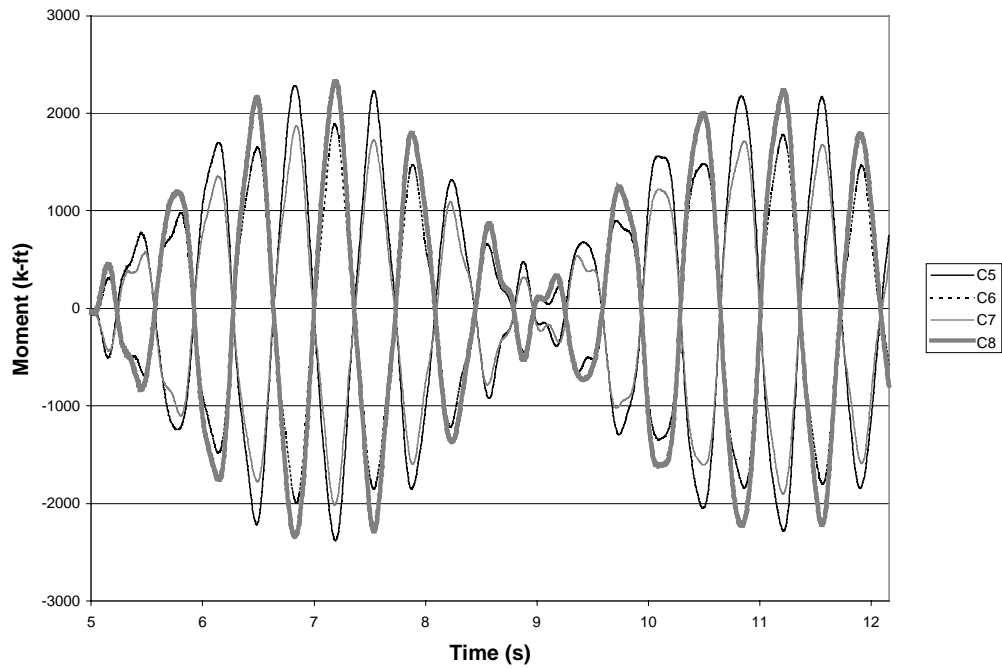


FIGURE 8-32. Moment occurring at each connection vs. time for the 4E (hysteretic behavior/thin plate) frame.



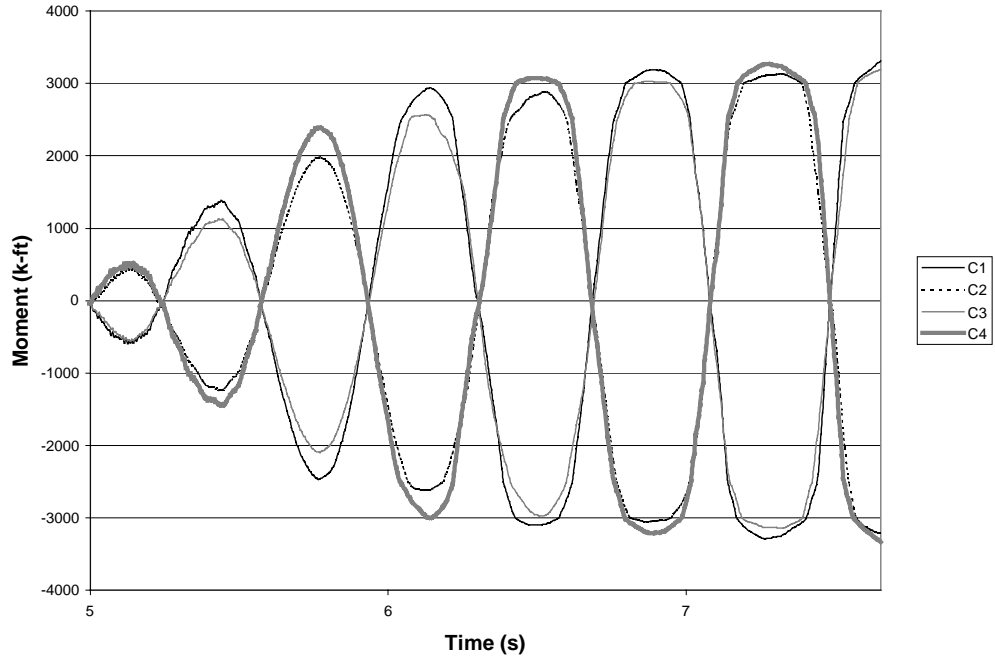
(a)



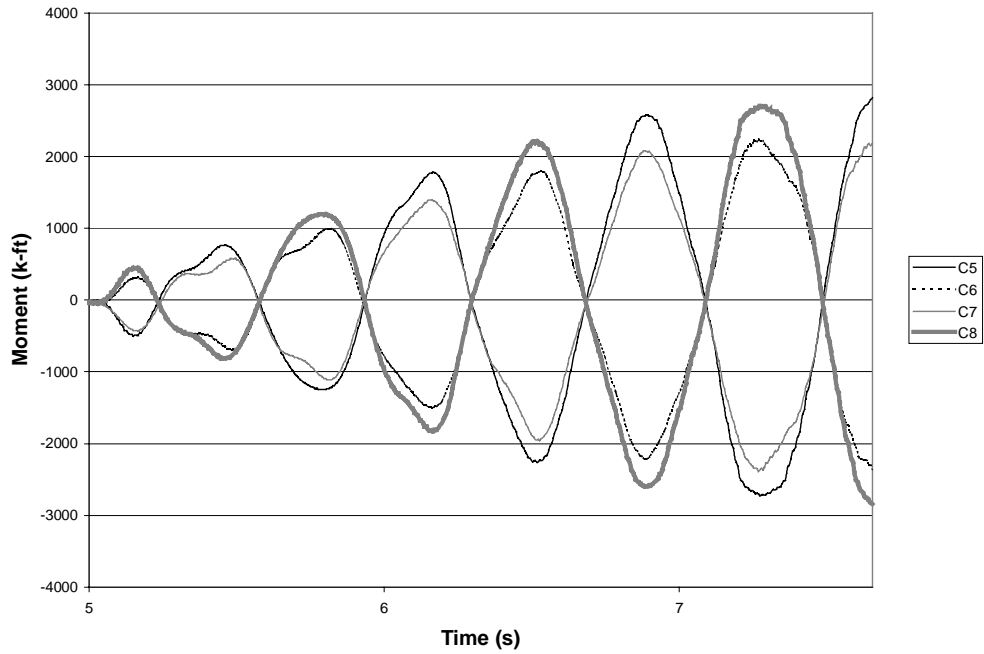
(b)

FIGURE 8-33. Moment occurring at each connection of the (a) bottom story and (b) top story vs. time for the 8ES (fully restrained/elastic connection) frame.



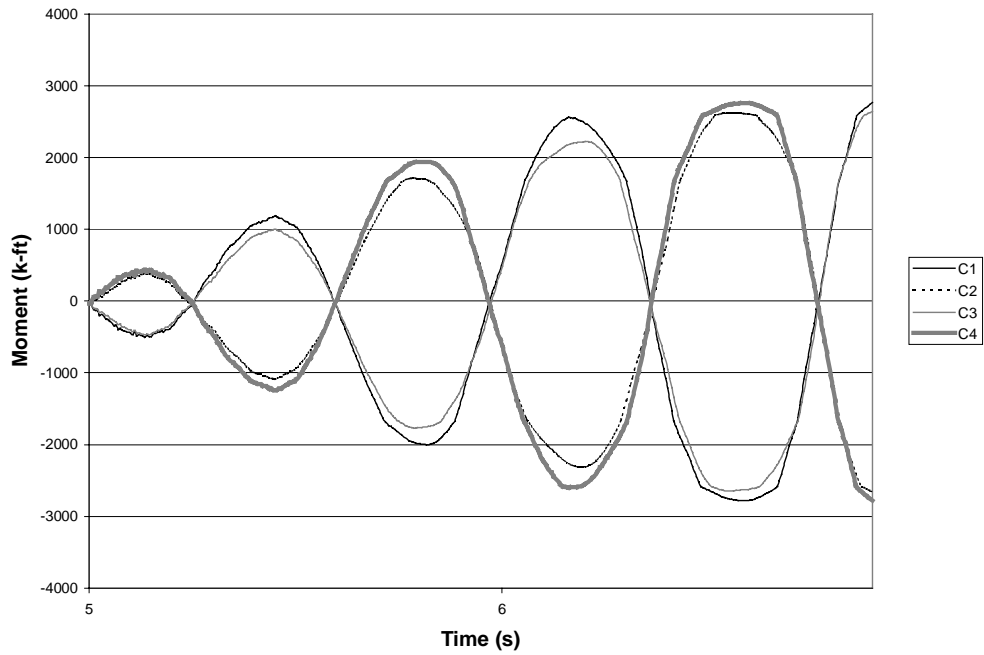


(a)

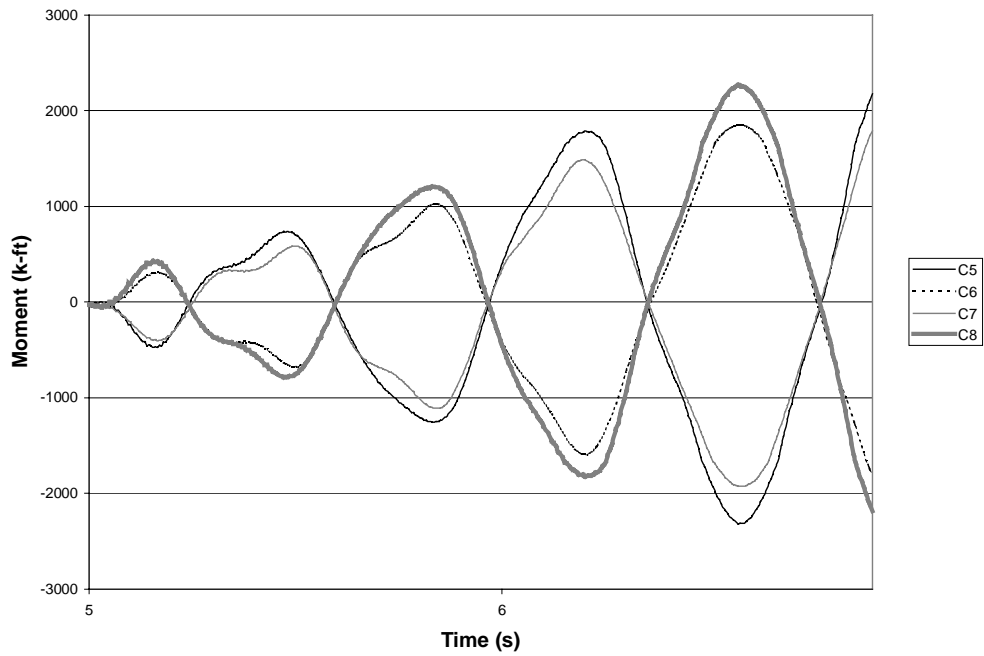


(b)

FIGURE 8-34. Moment occurring at each connection of the (a) bottom story and (b) top story vs. time for the 8ES (partially restrained/thick plate) frame.

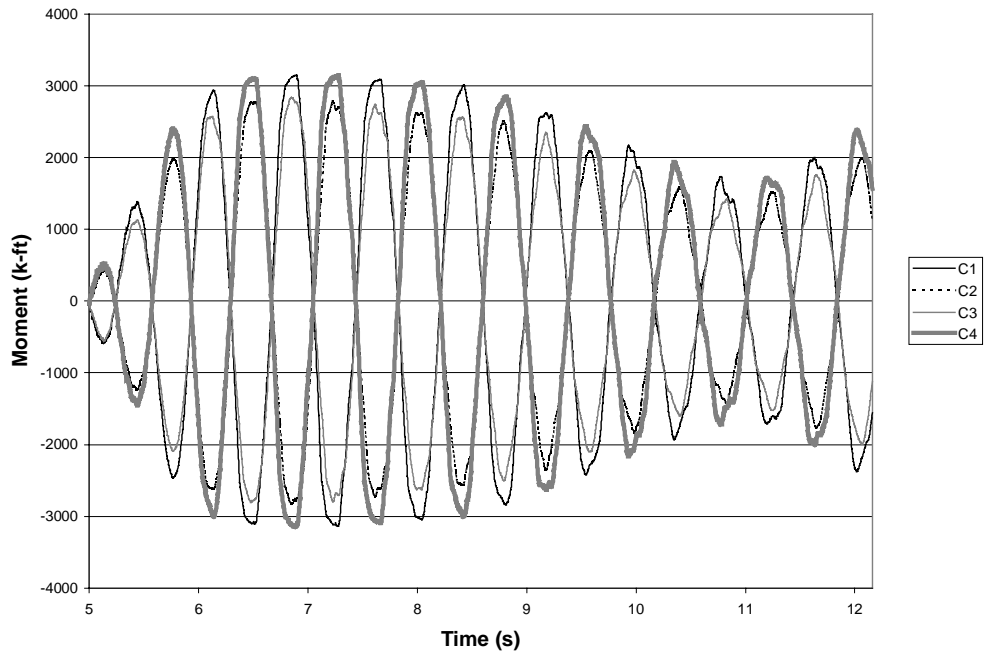


(a)

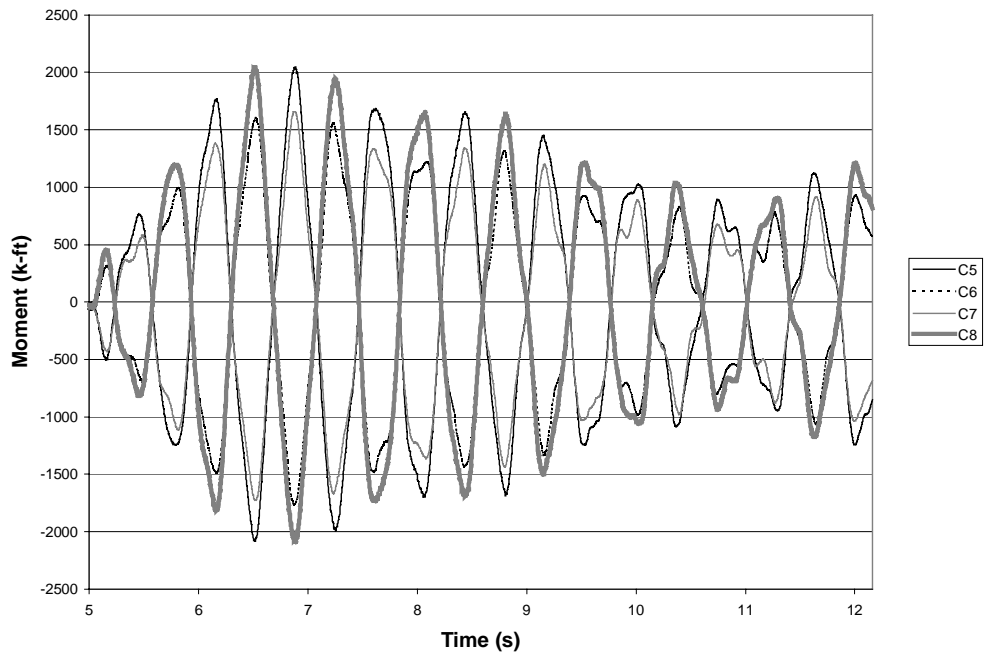


(b)

FIGURE 8-35. Moment occurring at each connection of the (a) bottom story and (b) top story vs. time for the 8ES (partially restrained/thin plate) frame.

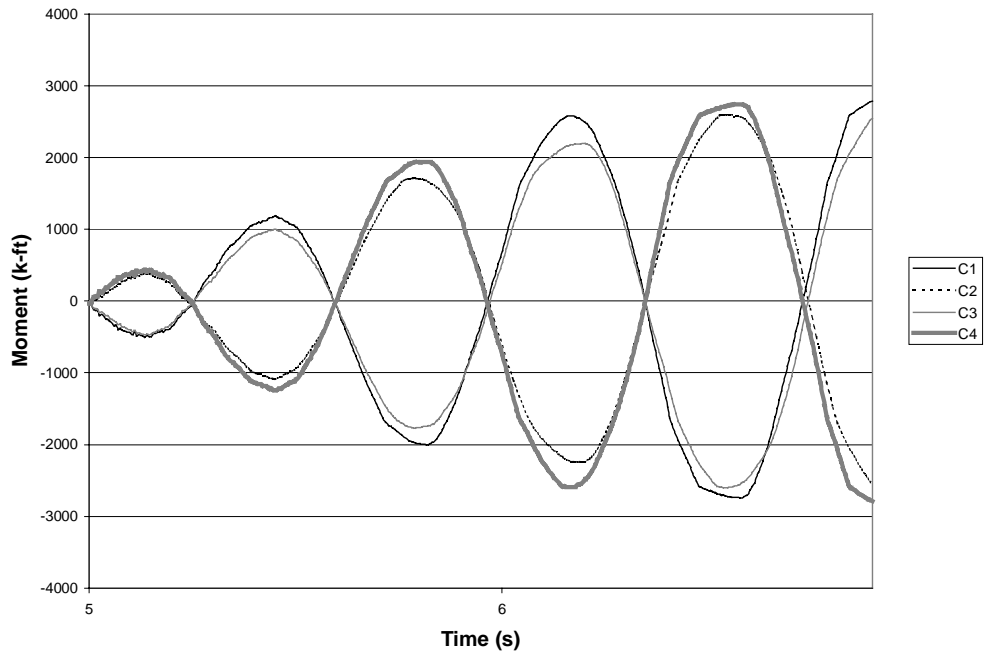


(a)

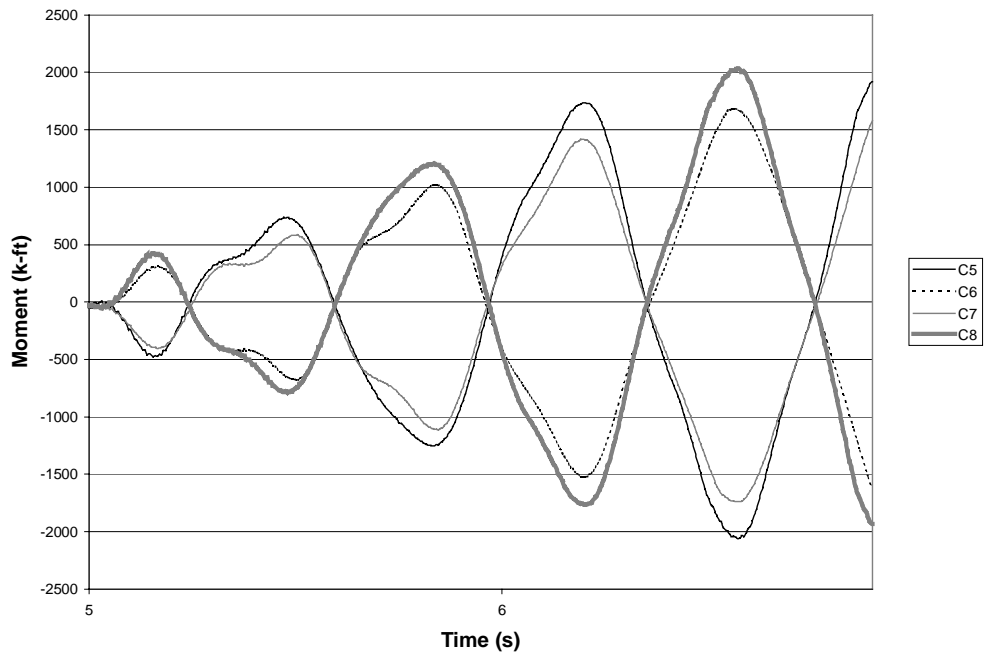


(b)

FIGURE 8-36. Moment occurring at each connection of the (a) bottom story and (b) top story vs. time for the 8ES (hysteretic behavior/thick plate) frame.



(a)



(b)

FIGURE 8-37. Moment occurring at each connection of the (a) bottom story and (b) top story vs. time for the 8ES (hysteretic behavior/thin plate) frame.