

Appendix G: Response Plots of Model 1a, Model 1c, and Model 1d: Effect of the Mechanical Behavior on Connections

A brief comparison of dynamic responses between different models (Models 1a, 1c, and 1d as shown in Section 4.3) under selected ground motions from BSE-1E and BSE-2E hazard levels is presented in Section 7.7. In this appendix, more information is provided for those three models. A complete set of figures of each ground motion at BSE-1E and BSE-2E hazard-level ground motions are provided, which address:

- Base shear versus roof displacement relationships under BSE-1E and BSE-2E hazard-level ground motions
- Roof displacement histories under BSE-1E and BSE-2E hazard-level ground motions
- Roof displacement orbits under BSE-1E and BSE-2E hazard-level ground motions

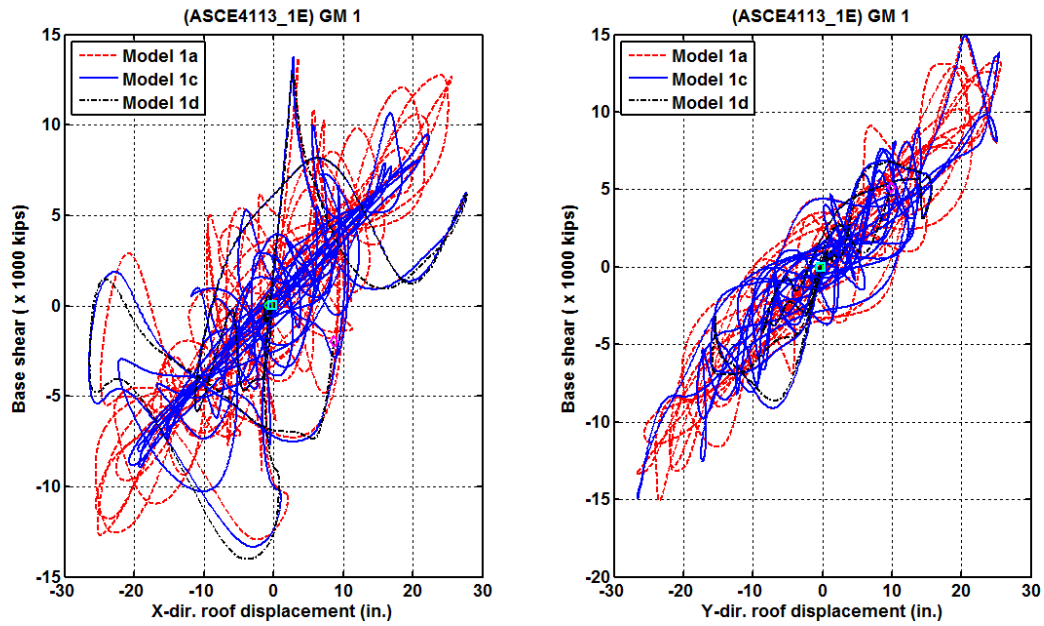


Figure G.1 Base shear versus roof displacement relationships under BSE-1E level ground motion number 1 from different models (Model 1a, Model 1c, and Model 1d).

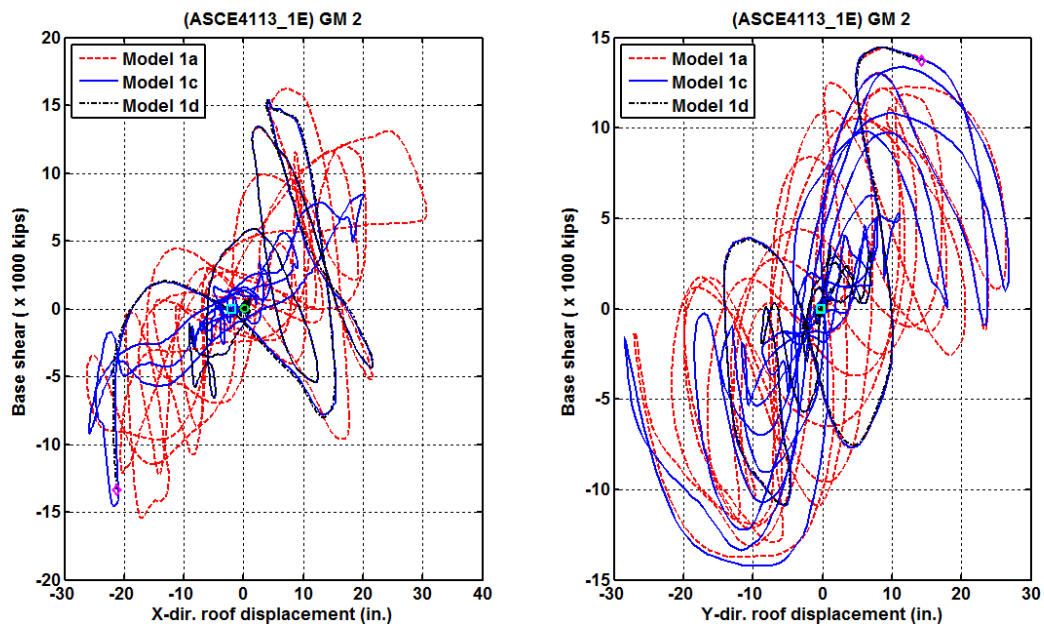


Figure G.2 Base shear versus roof displacement relationships under BSE-1E level ground motion number 2 from different models (Model 1a, Model 1c, and Model 1d).

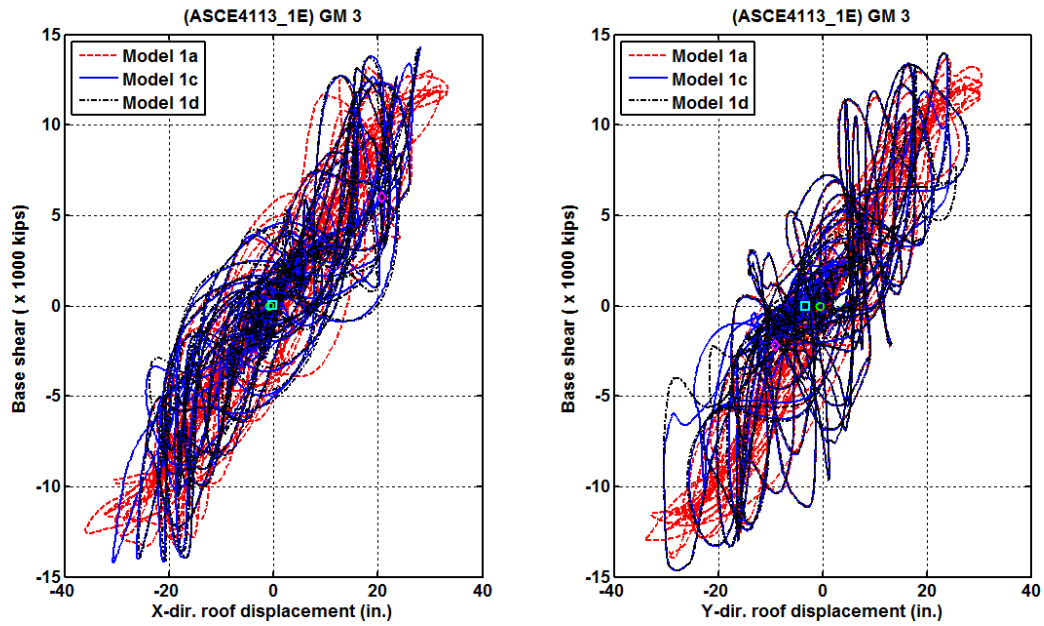


Figure G.3 Base shear versus roof displacement relationships under BSE-1E level ground motion number 3 from different models (Model 1a, Model 1c, and Model 1d).

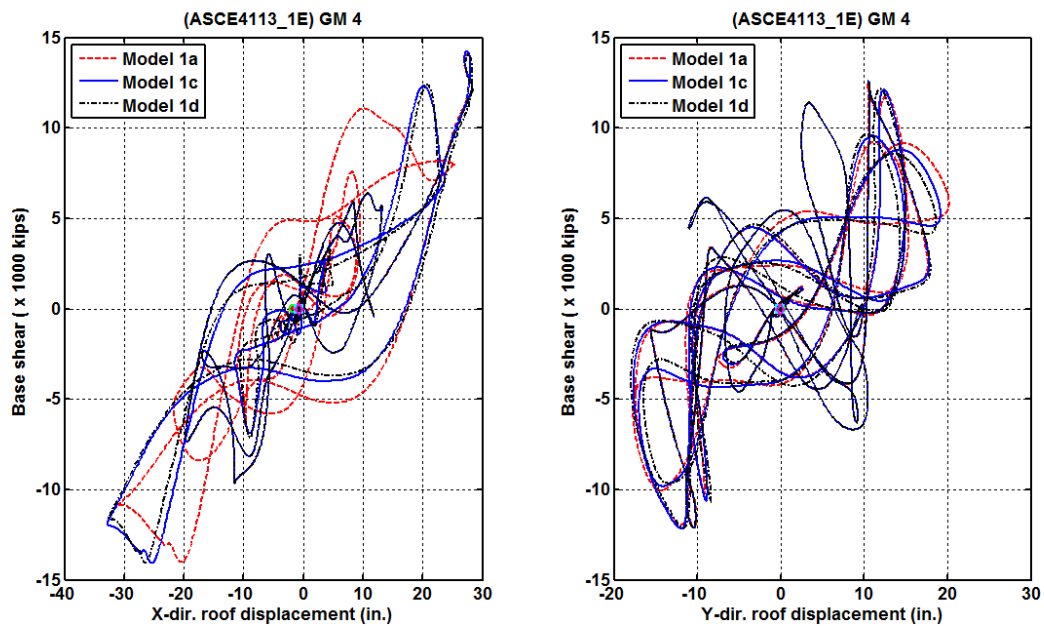


Figure G.4 Base shear versus roof displacement relationships under BSE-1E level ground motion number 4 from different models (Model 1a, Model 1c, and Model 1d).

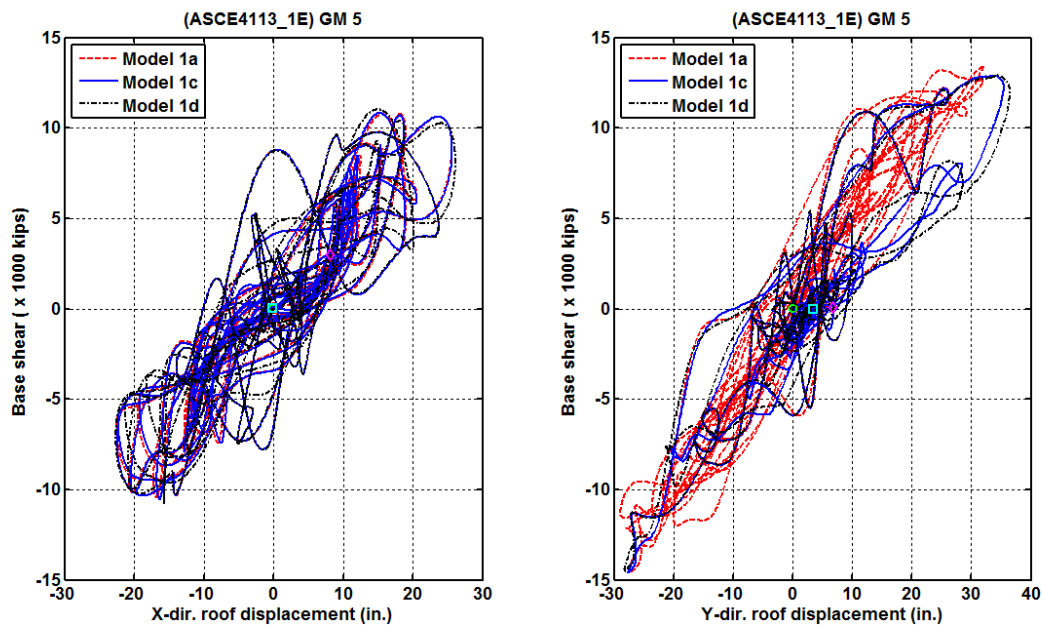


Figure G.5 Base shear versus roof displacement relationships under BSE-1E level ground motion number 5 from different models (Model 1a, Model 1c, and Model 1d).

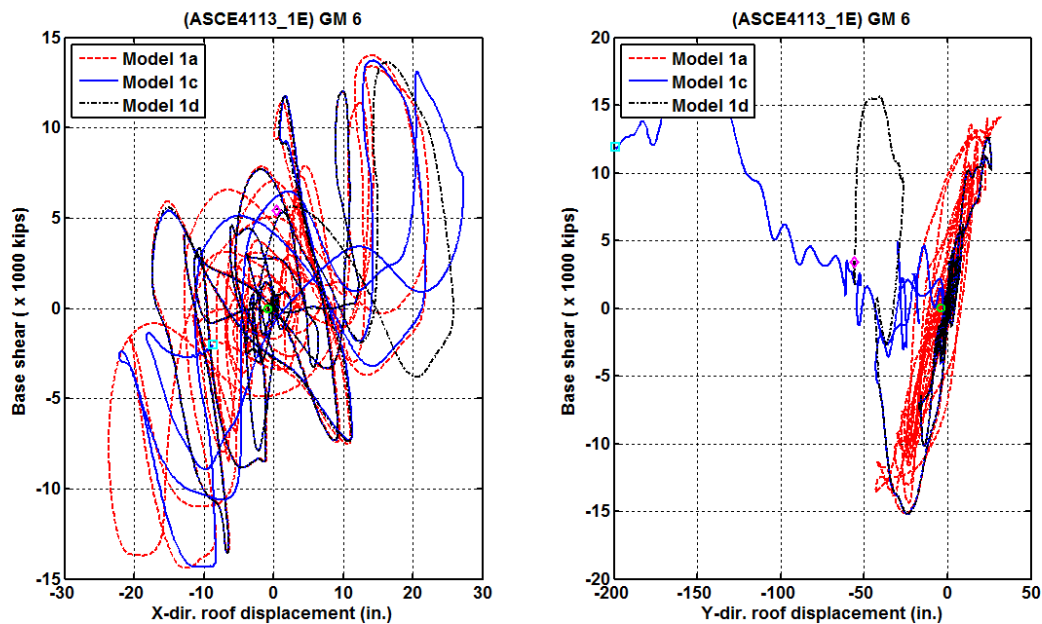


Figure G.6 Base shear versus roof displacement relationships under BSE-1E level ground motion number 6 from different models (Model 1a, Model 1c, and Model 1d).

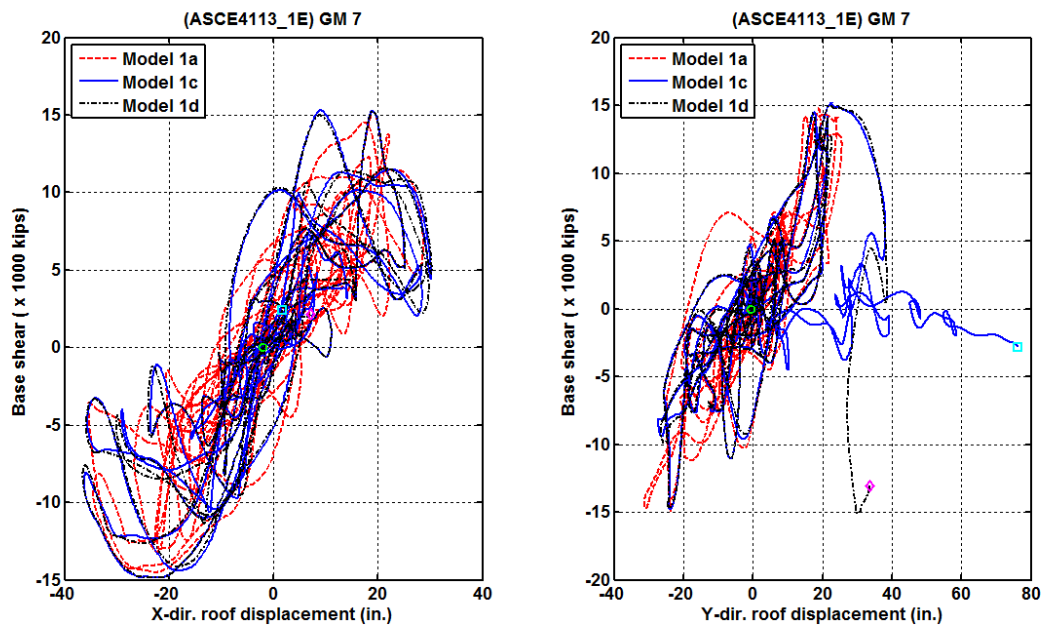


Figure G.7 Base shear versus roof displacement relationships under BSE-1E level ground motion number 7 from different models (Model 1a, Model 1c, and Model 1d).

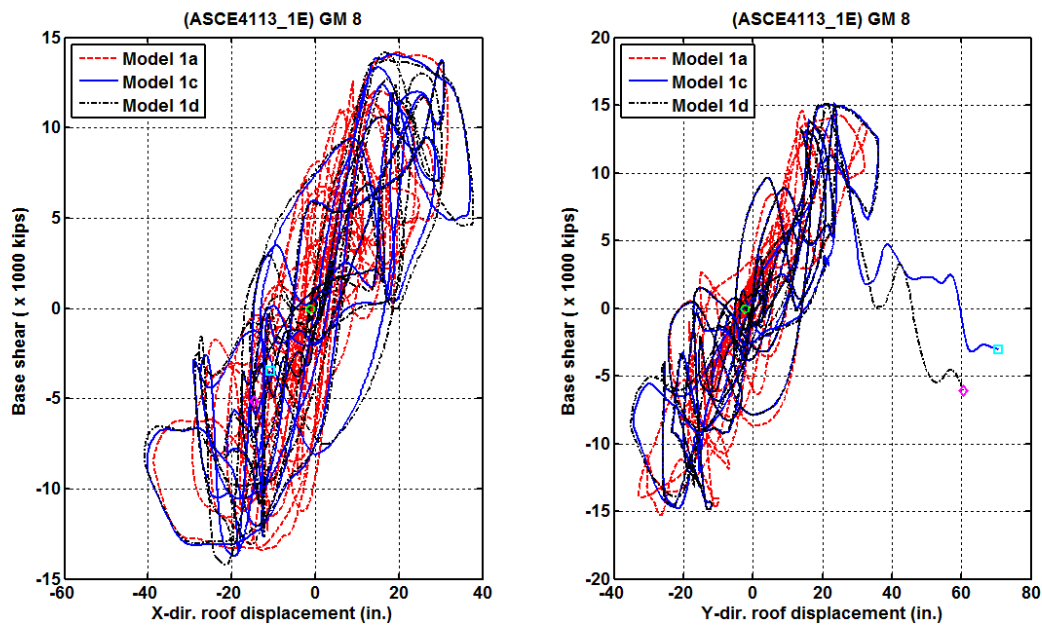


Figure G.8 Base shear versus roof displacement relationships under BSE-1E level ground motion number 8 from different models (Model 1a, Model 1c, and Model 1d).

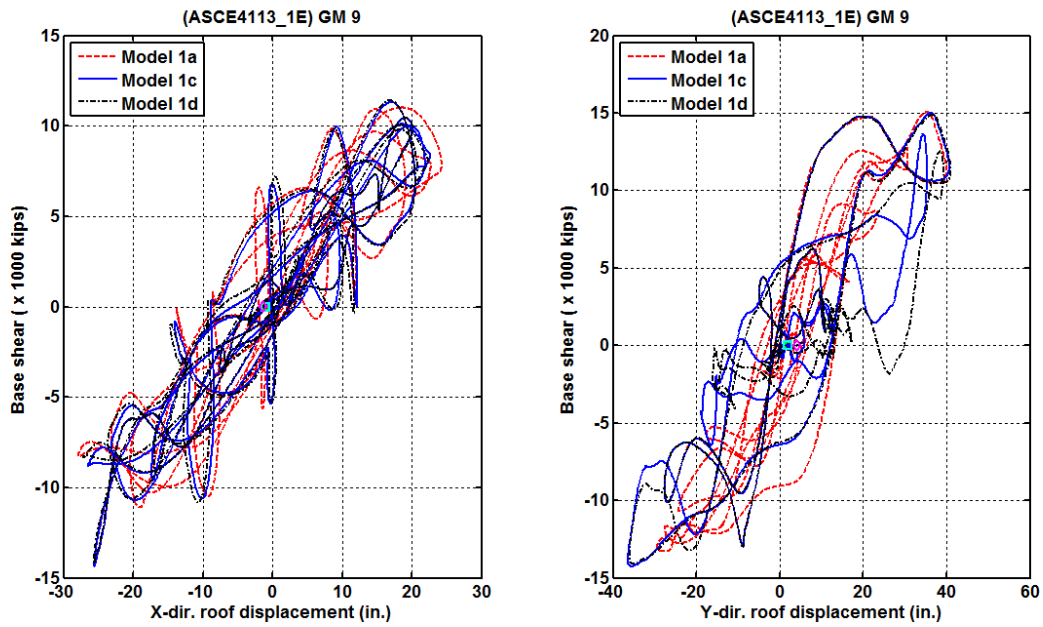


Figure G.9 Base shear versus roof displacement relationships under BSE-1E level ground motion number 9 from different models (Model 1a, Model 1c, and Model 1d).

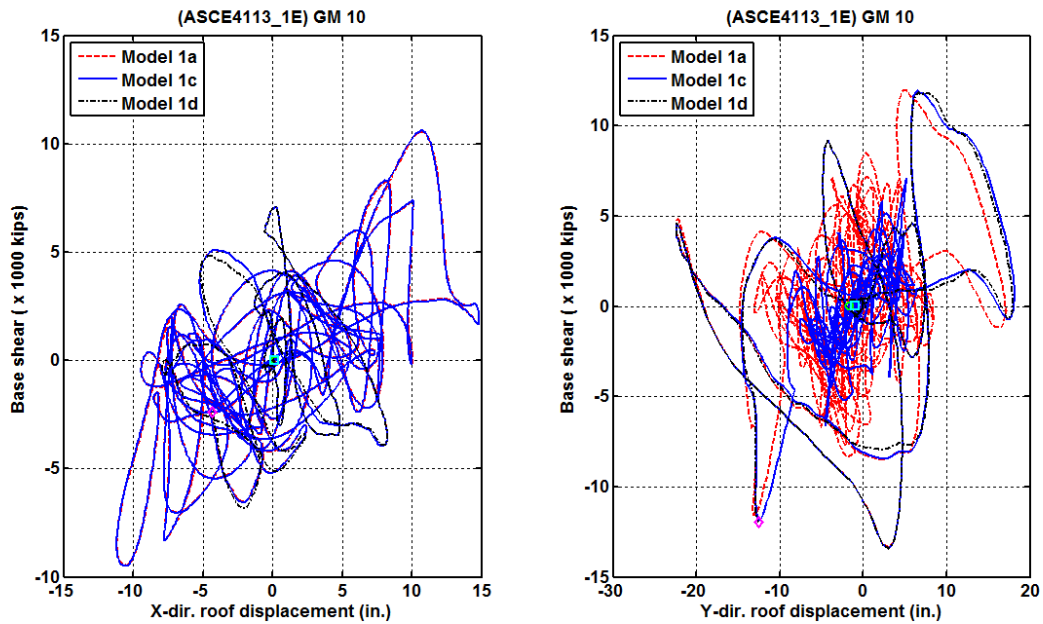


Figure G.10 Base shear versus roof displacement relationships under BSE-1E level ground motion number 10 from different models (Model 1a, Model 1c, and Model 1d).

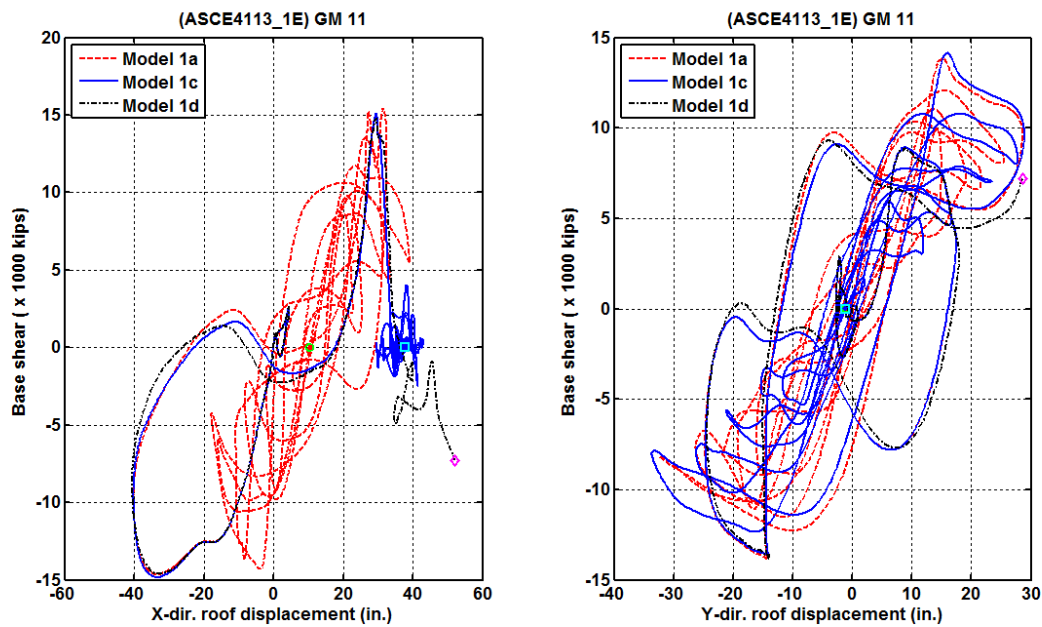


Figure G.11 Base shear versus roof displacement relationships under BSE-1E level ground motion number 11 from different models (Model 1a, Model 1c, and Model 1d).

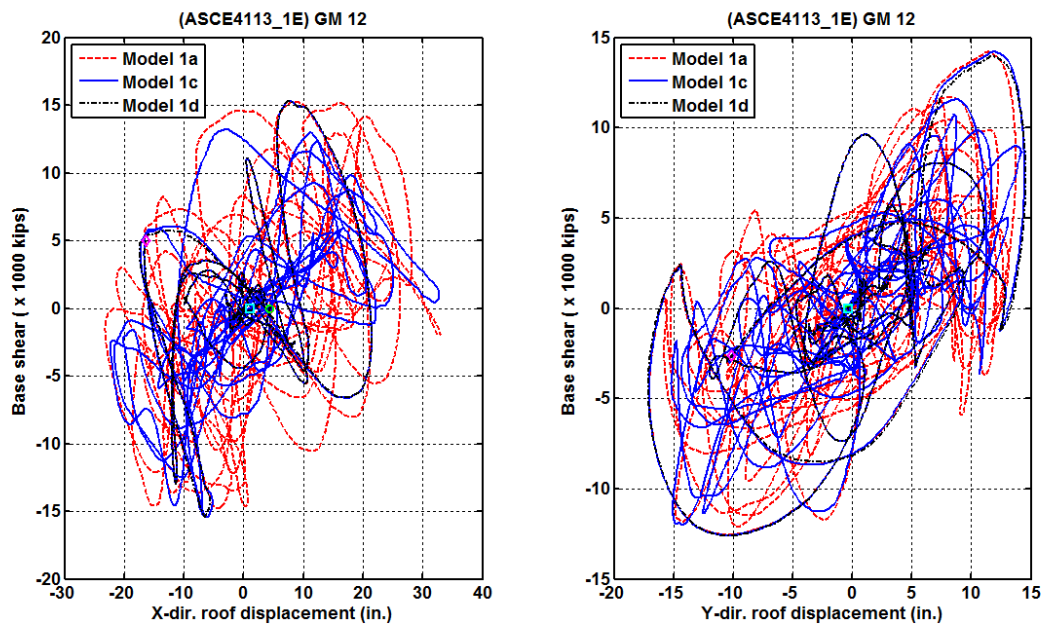


Figure G.12 Base shear versus roof displacement relationships under BSE-1E level ground motion number 12 from different models (Model 1a, Model 1c, and Model 1d).

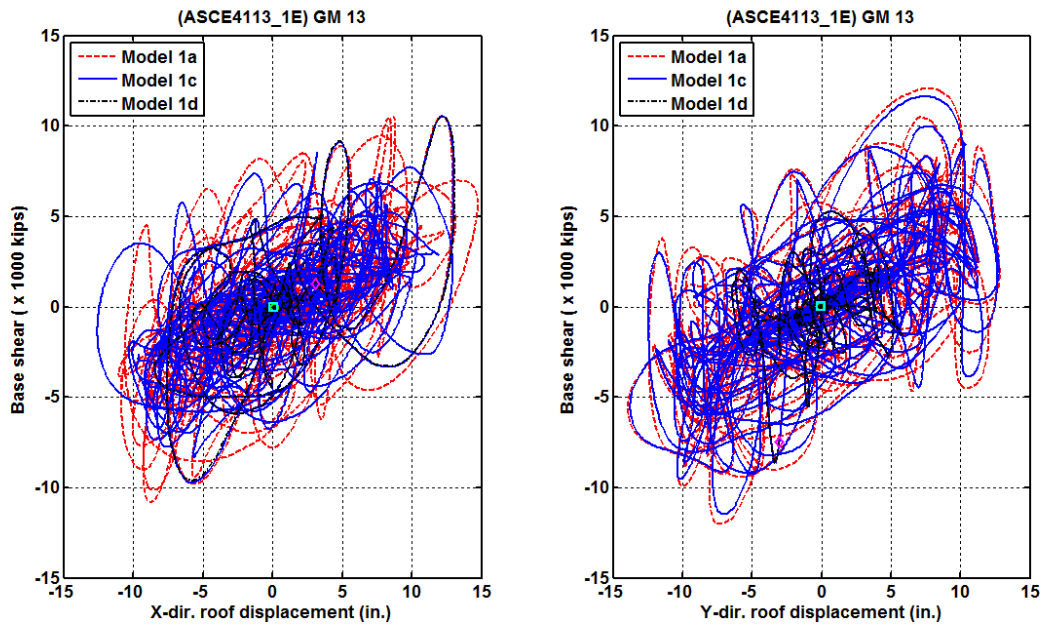


Figure G.13 Base shear versus roof displacement relationships under BSE-1E level ground motion number 13 from different models (Model 1a, Model 1c, and Model 1d).

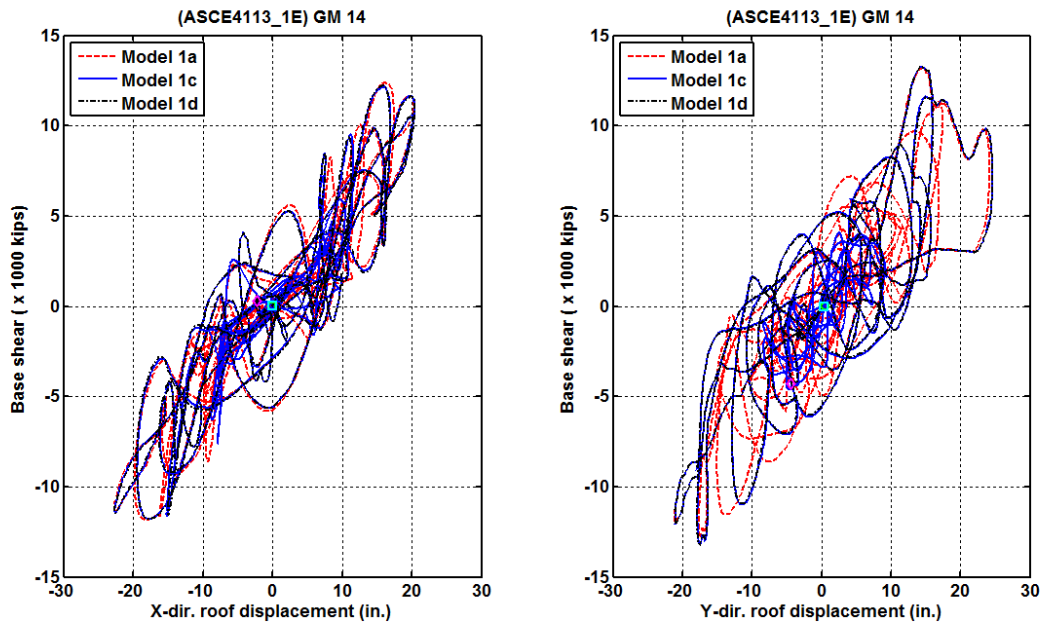


Figure G.14 Base shear versus roof displacement relationships under BSE-1E level ground motion number 14 from different models (Model 1a, Model 1c, and Model 1d).

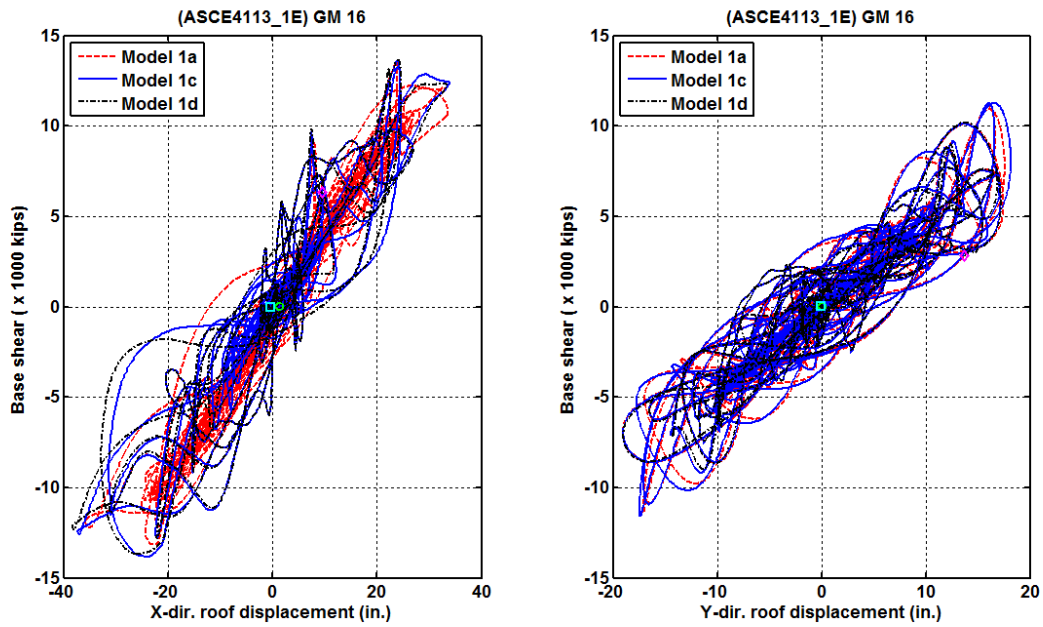


Figure G.15 Base shear versus roof displacement relationships under BSE-1E level ground motion number 16 from different models (Model 1a, Model 1c, and Model 1d).

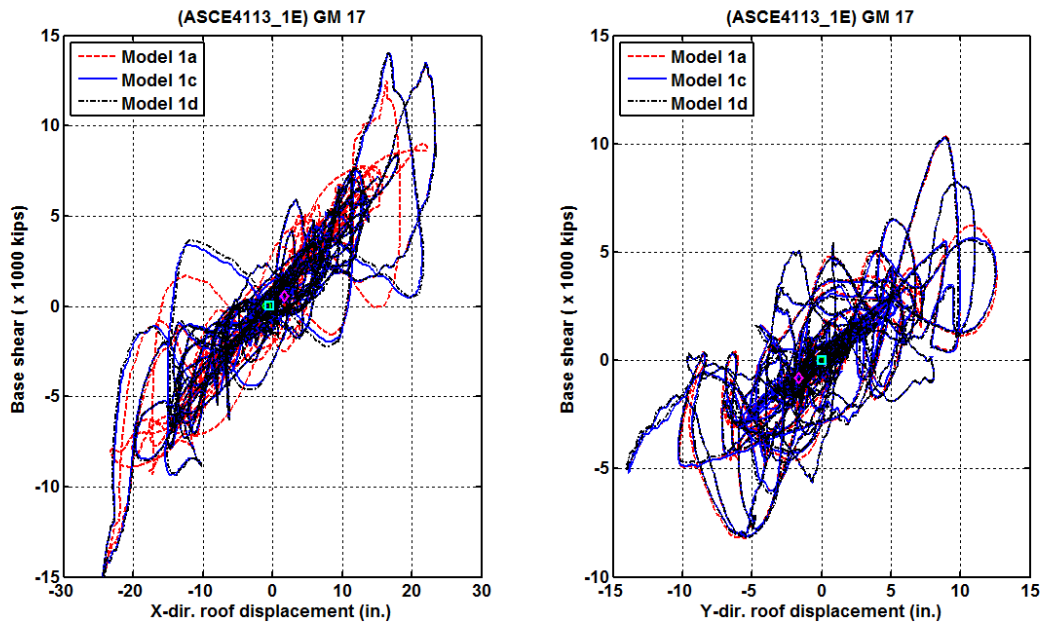


Figure G.16 Base shear versus roof displacement relationships under BSE-1E level ground motion number 17 from different models (Model 1a, Model 1c, and Model 1d).

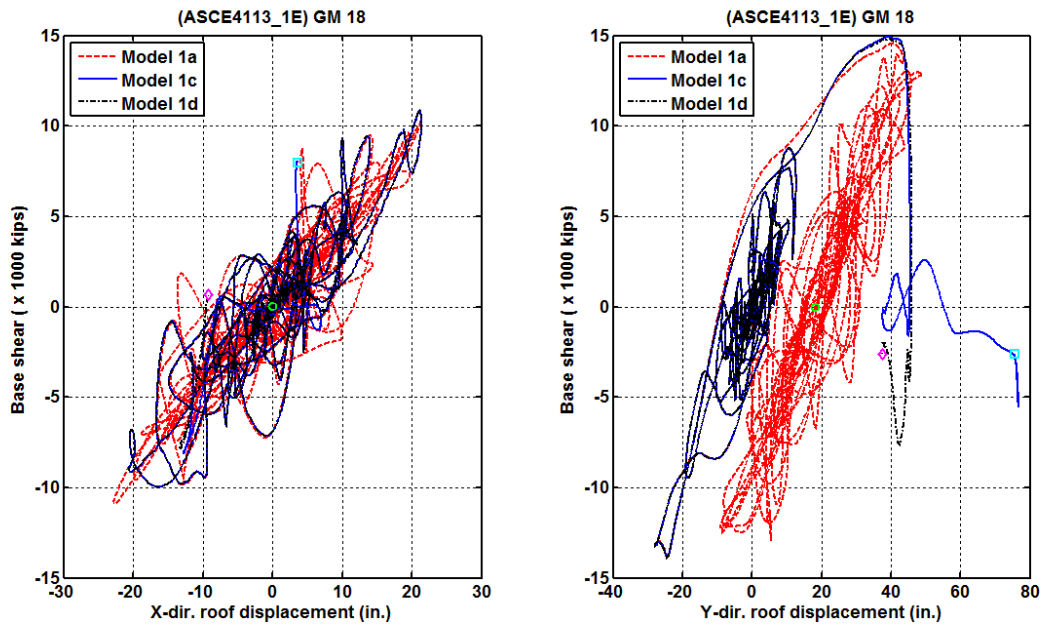


Figure G.17 Base shear versus roof displacement relationships under BSE-1E level ground motion number 18 from different models (Model 1a, Model 1c, and Model 1d).

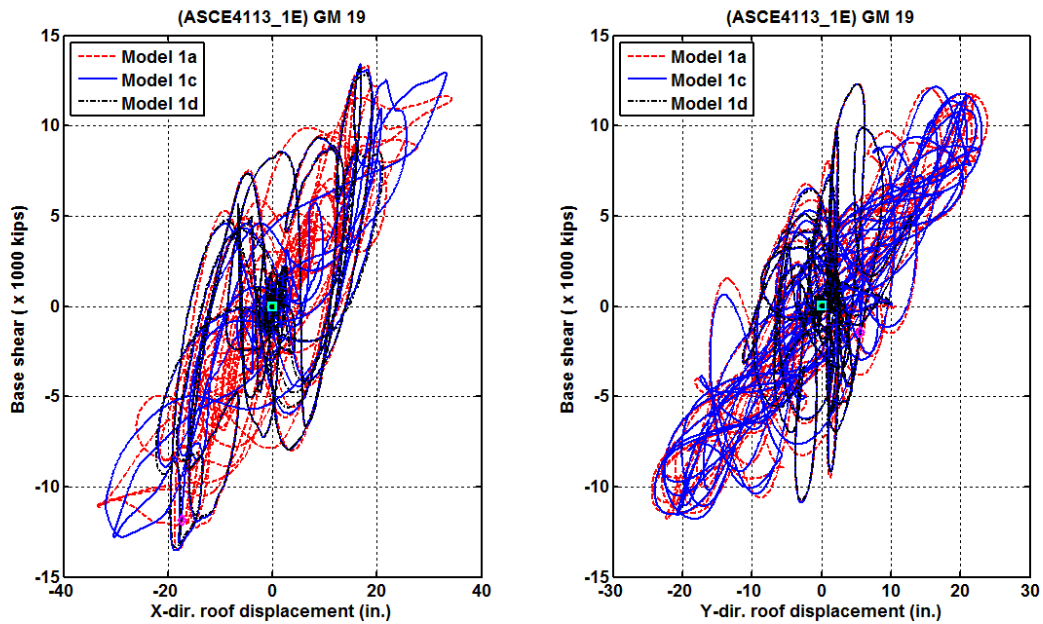


Figure G.18 Base shear versus roof displacement relationships under BSE-1E level ground motion number 19 from different models (Model 1a, Model 1c, and Model 1d).

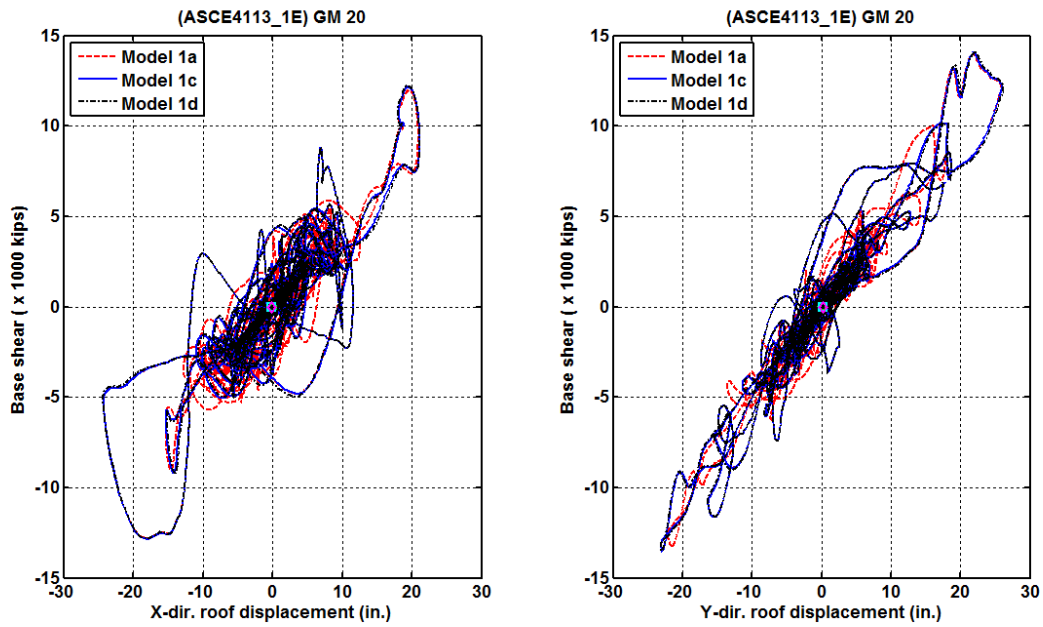


Figure G.19 Base shear versus roof displacement relationships under BSE-1E level ground motion number 20 from different models (Model 1a, Model 1c, and Model 1d).

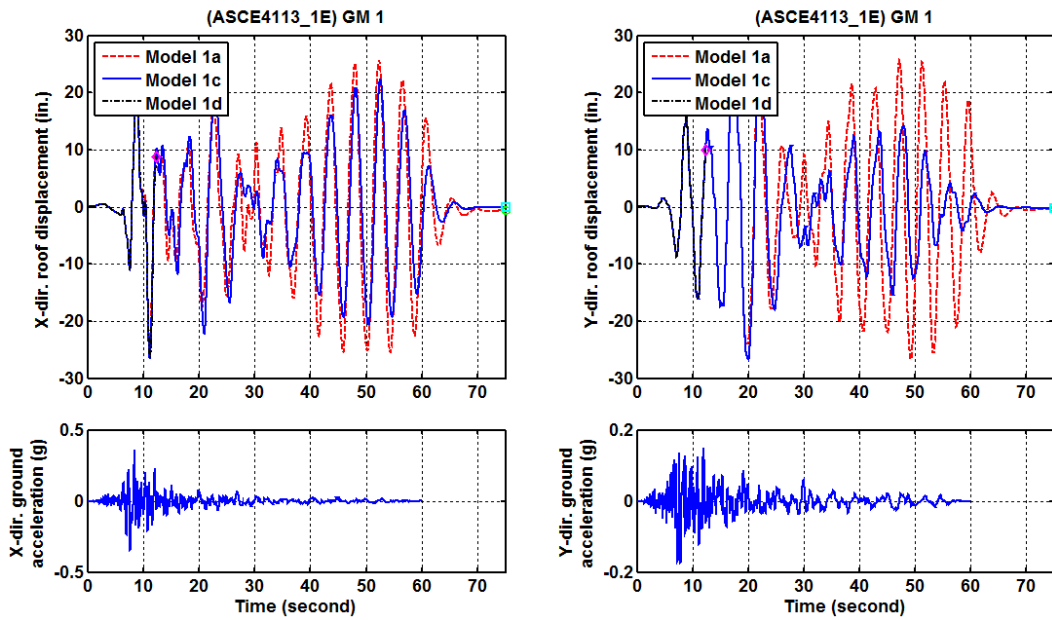


Figure G.20 Roof displacement histories under BSE-1E level ground motion number 1 from different models (Model 1a, Model 1c, and Model 1d).

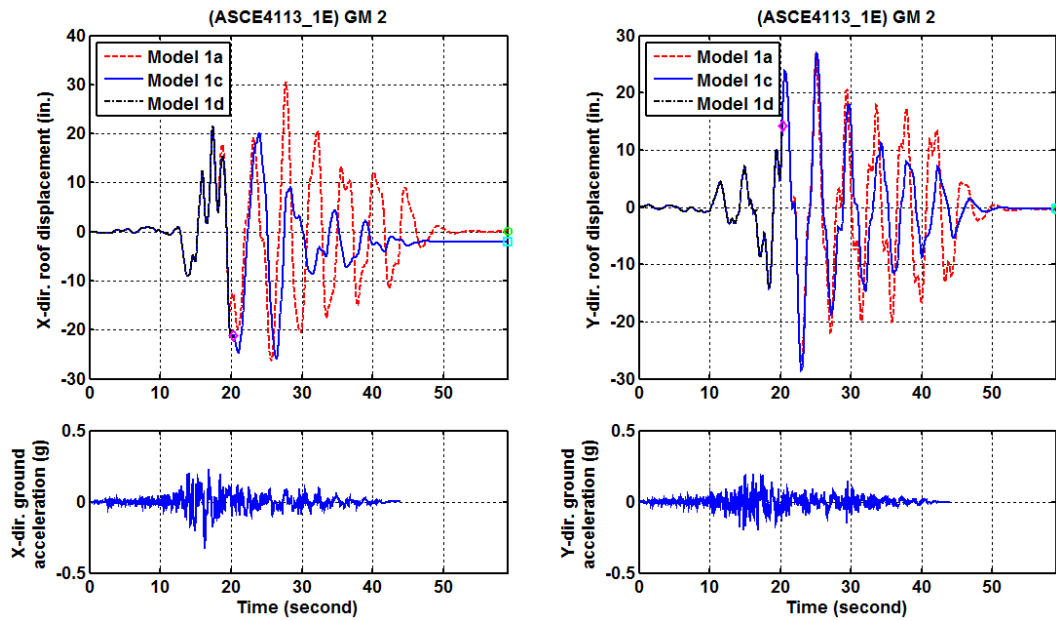


Figure G.21 Roof displacement histories under BSE-1E level ground motion number 2 from different models (Model 1a, Model 1c, and Model 1d).

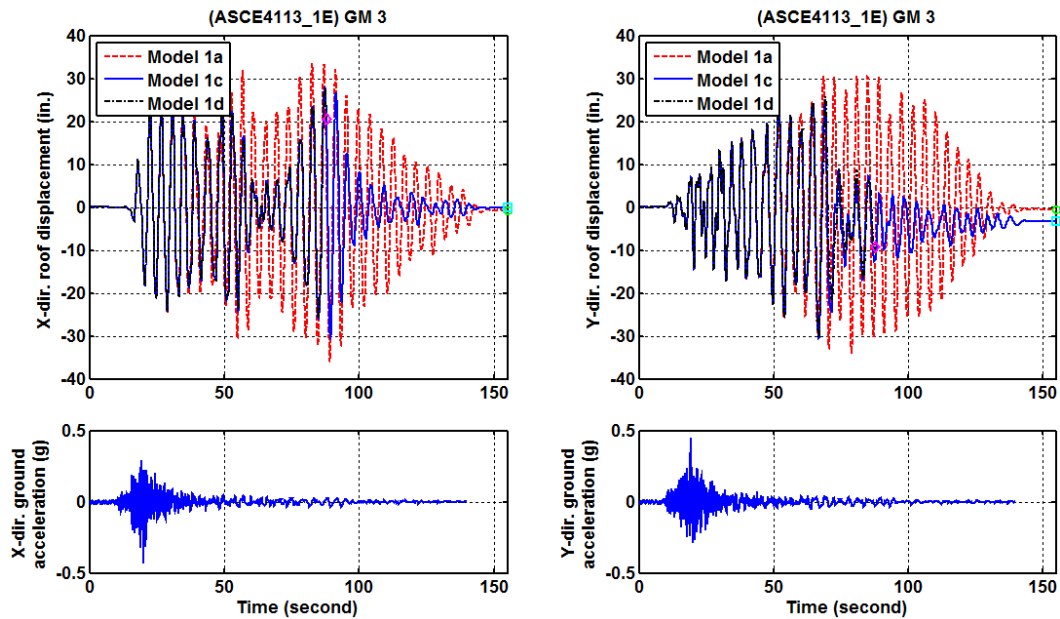


Figure G.22 Roof displacement histories under BSE-1E level ground motion number 3 from different models (Model 1a, Model 1c, and Model 1d)

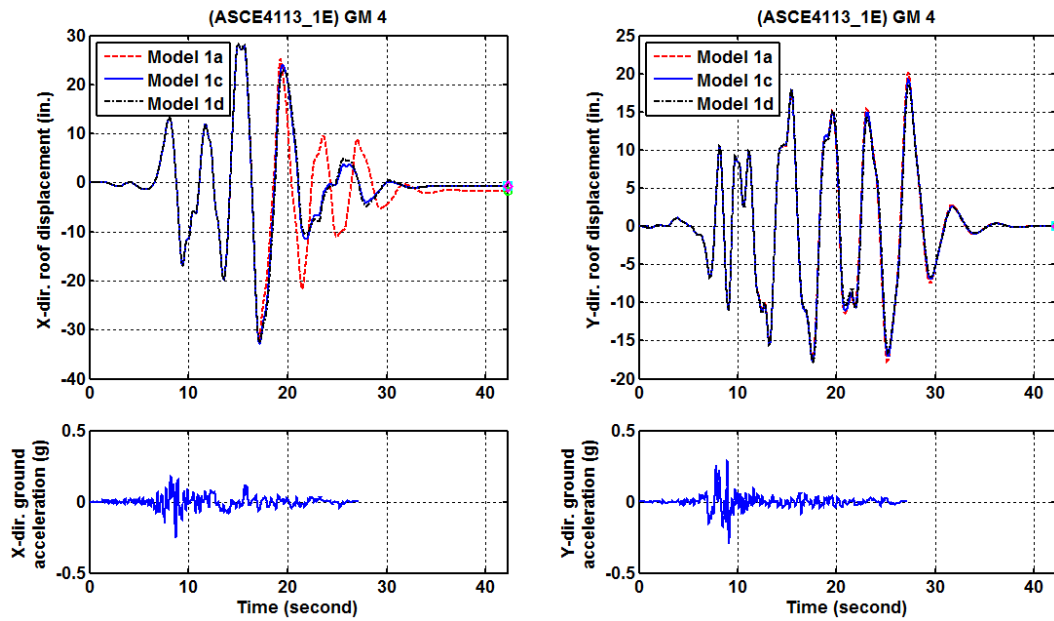


Figure G.23 Roof displacement histories under BSE-1E level ground motion number 4 from different models (Model 1a, Model 1c, and Model 1d).

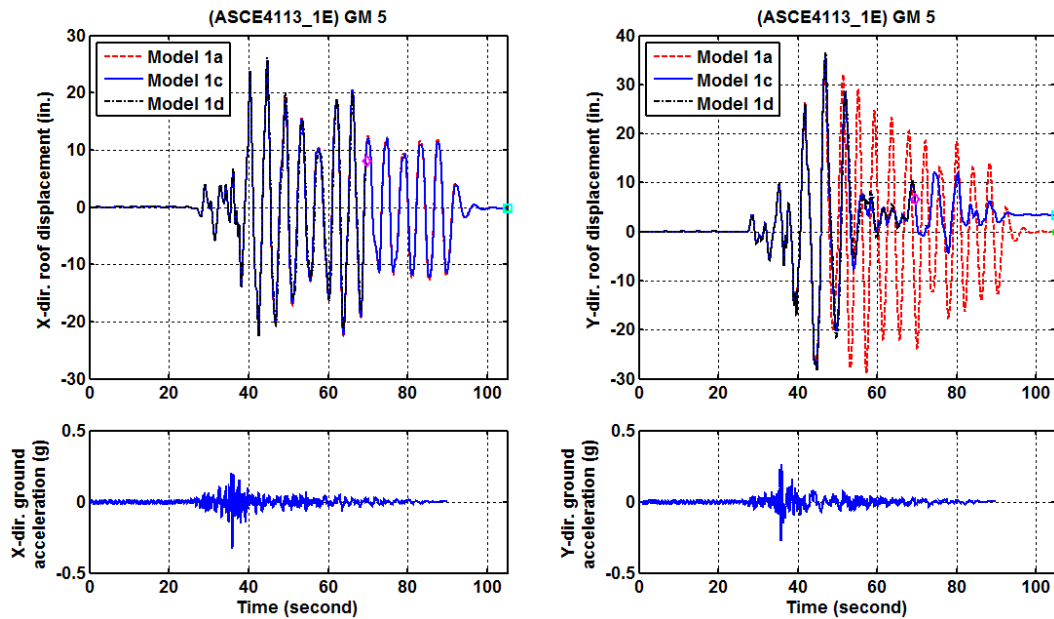


Figure G.24 Roof displacement histories under BSE-1E level ground motion number 5 from different models (Model 1a, Model 1c, and Model 1d).

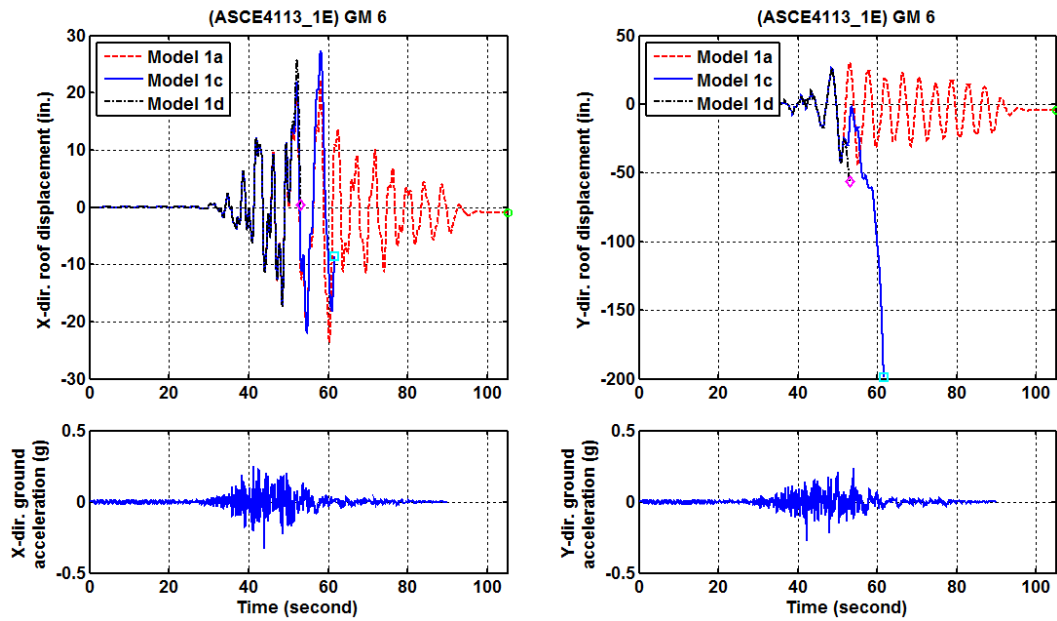


Figure G.25 Roof displacement histories under BSE-1E level ground motion number 6 from different models (Model 1a, Model 1c, and Model 1d).

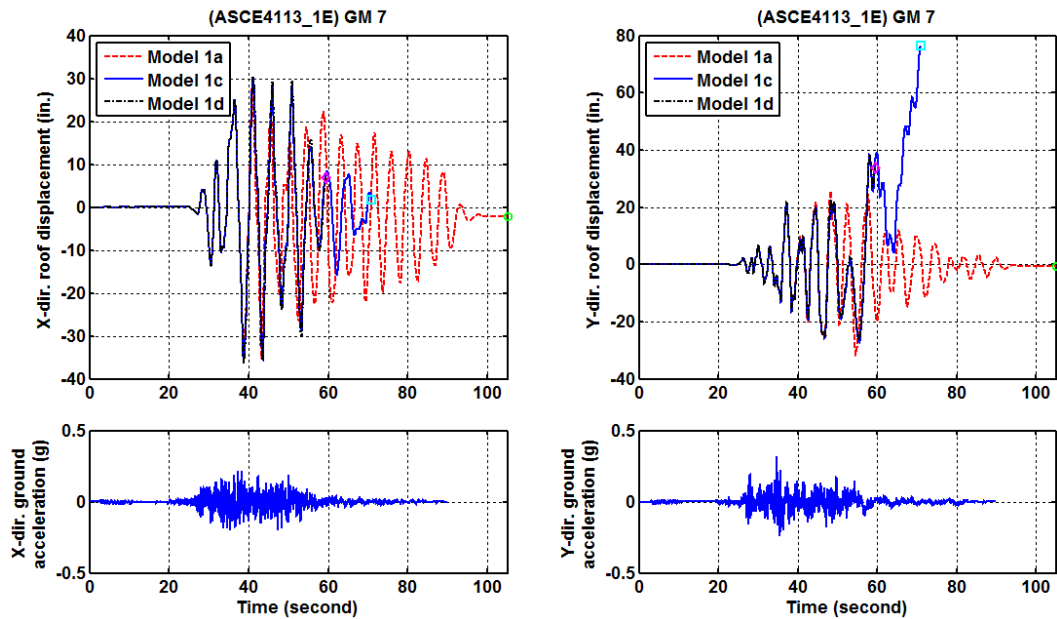


Figure G.26 Roof displacement histories under BSE-1E level ground motion number 7 from different models (Model 1a, Model 1c, and Model 1d).

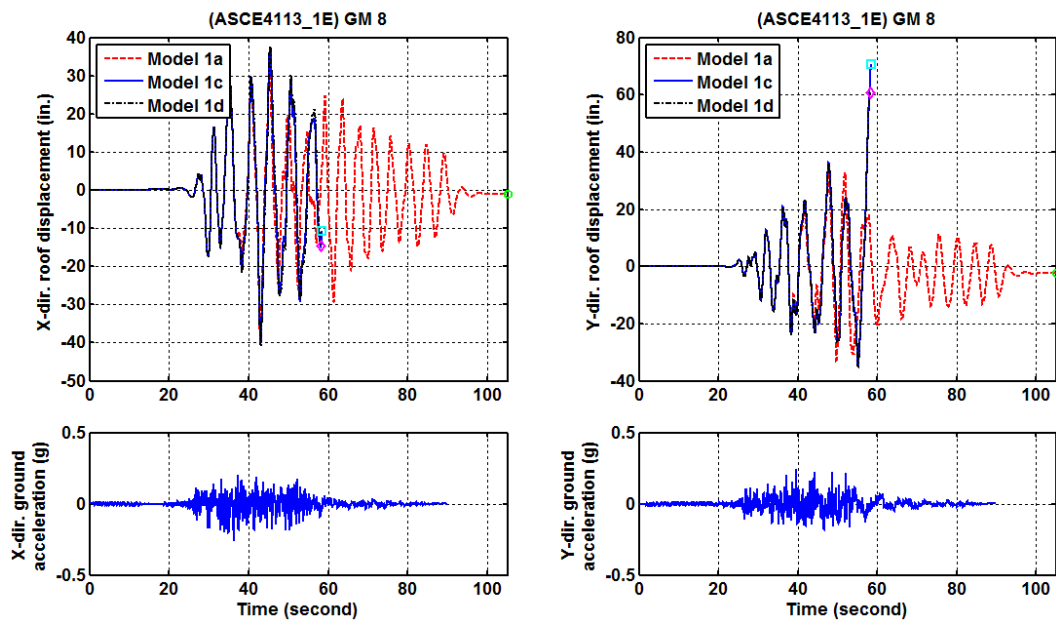


Figure G.27 Roof displacement histories under BSE-1E level ground motion number 8 from different models (Model 1a, Model 1c, and Model 1d).

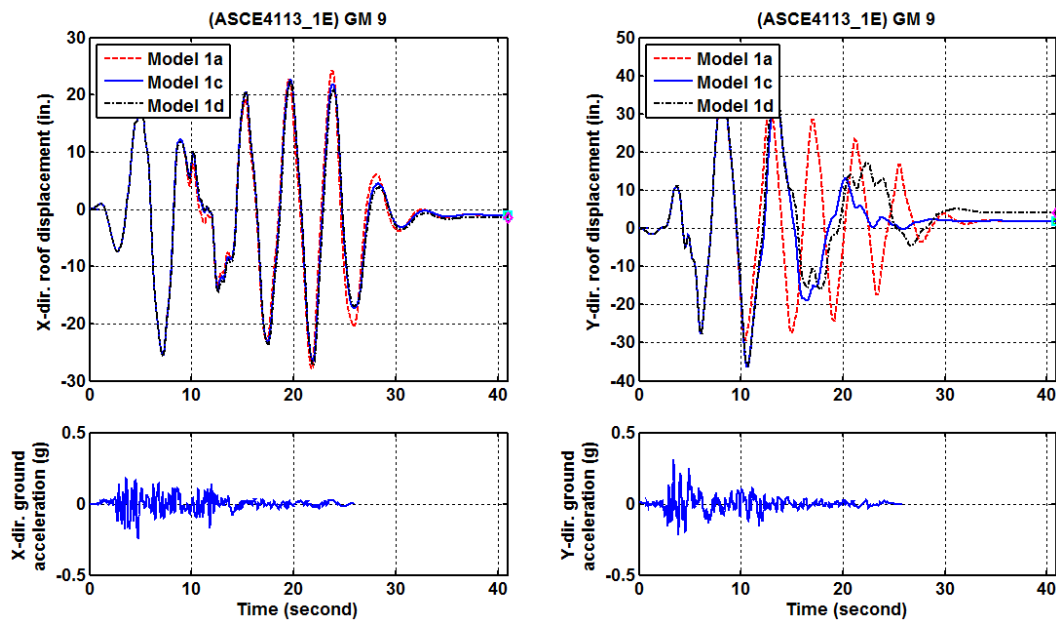


Figure G.28 Roof displacement histories under BSE-1E level ground motion number 9 from different models (Model 1a, Model 1c, and Model 1d).

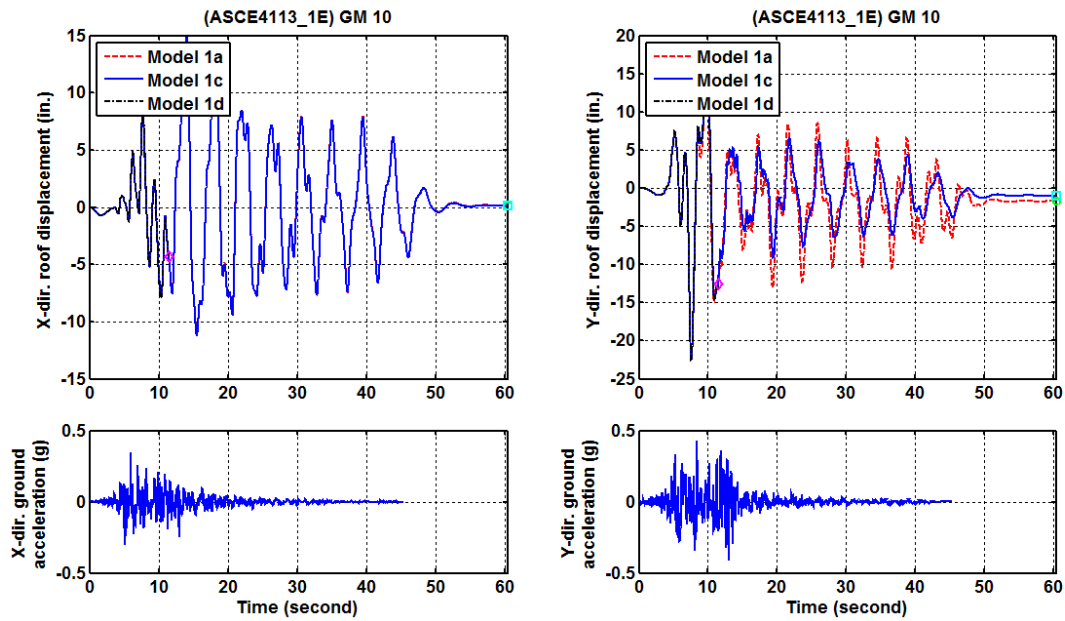


Figure G.29 Roof displacement histories under BSE-1E level ground motion number 10 from different models (Model 1a, Model 1c, and Model 1d).

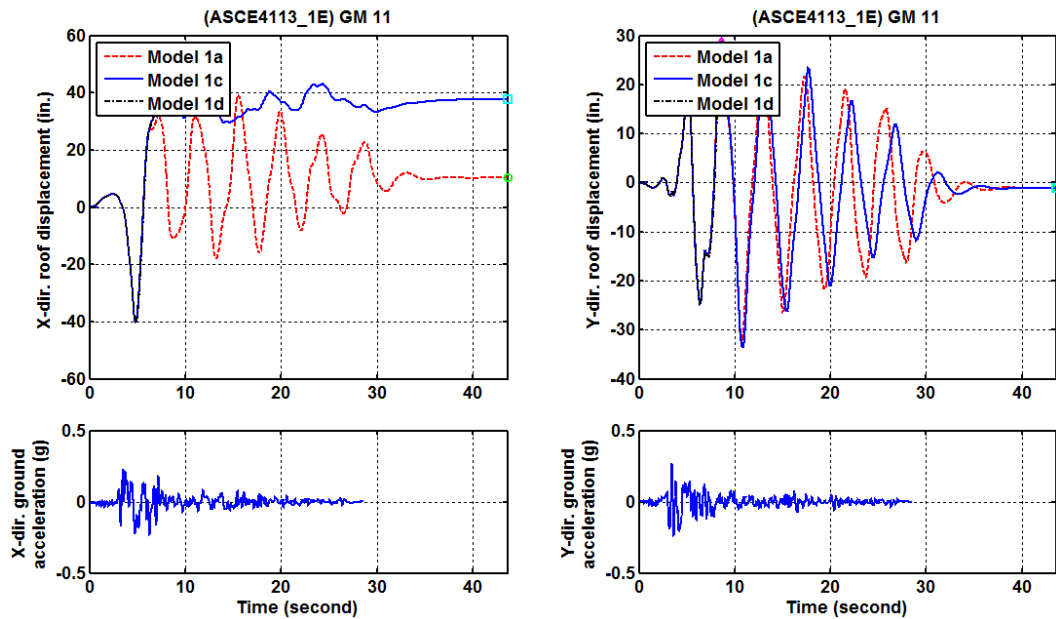


Figure G.30 Roof displacement histories under BSE-1E level ground motion number 11 from different models (Model 1a, Model 1c, and Model 1d).

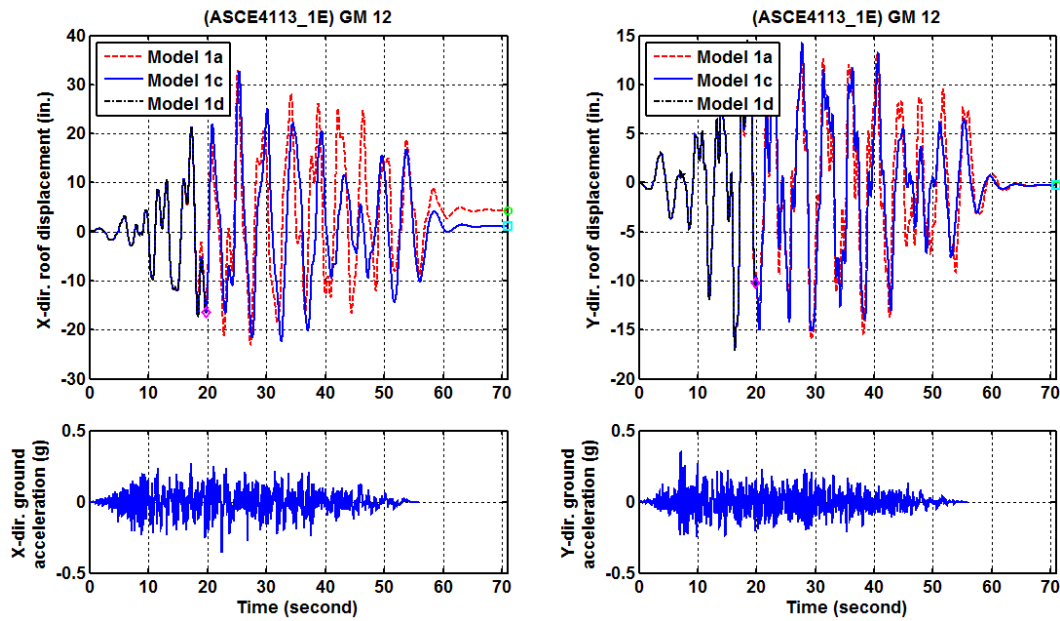


Figure G.31 Roof displacement histories under BSE-1E level ground motion number 12 from different models (Model 1a, Model 1c, and Model 1d),

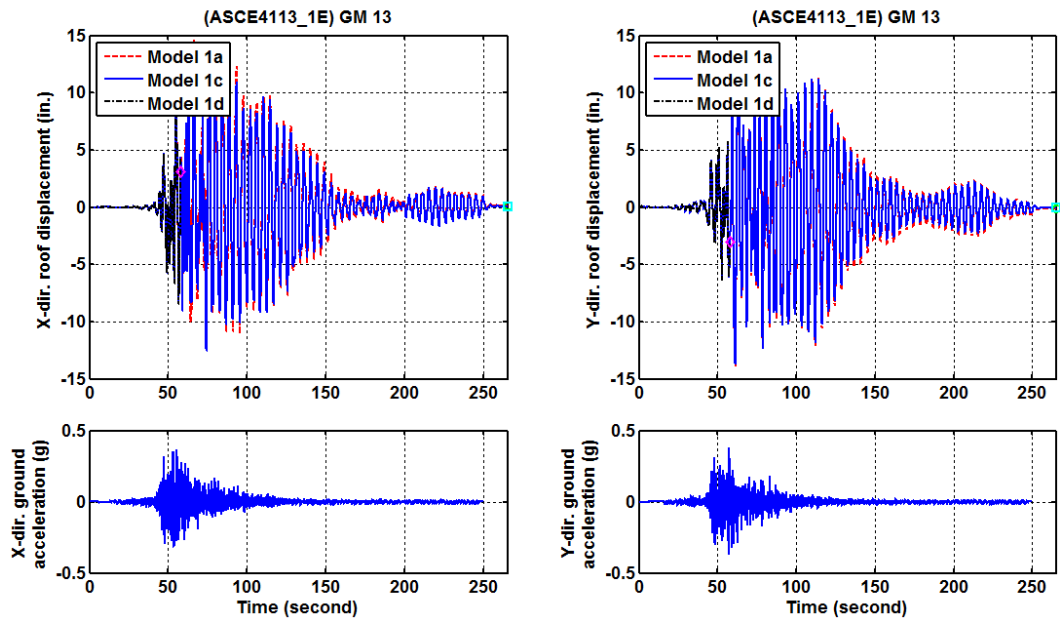


Figure G.32 Roof displacement histories under BSE-1E level ground motion number 13 from different models (Model 1a, Model 1c, and Model 1d).

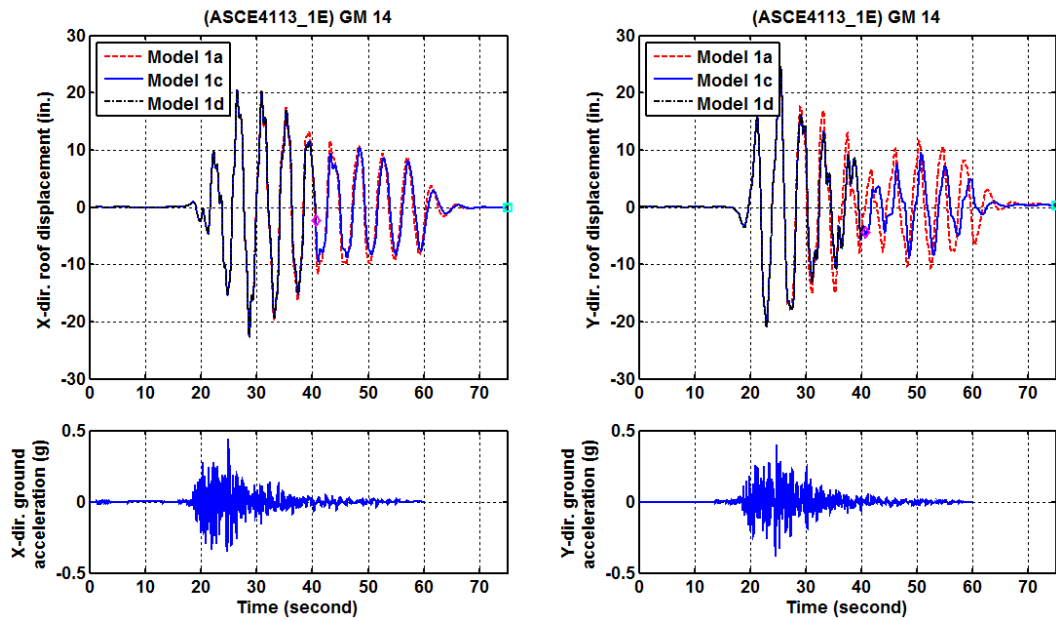


Figure G.33 Roof displacement histories under BSE-1E level ground motion number 14 from different models (Model 1a, Model 1c, and Model 1d).

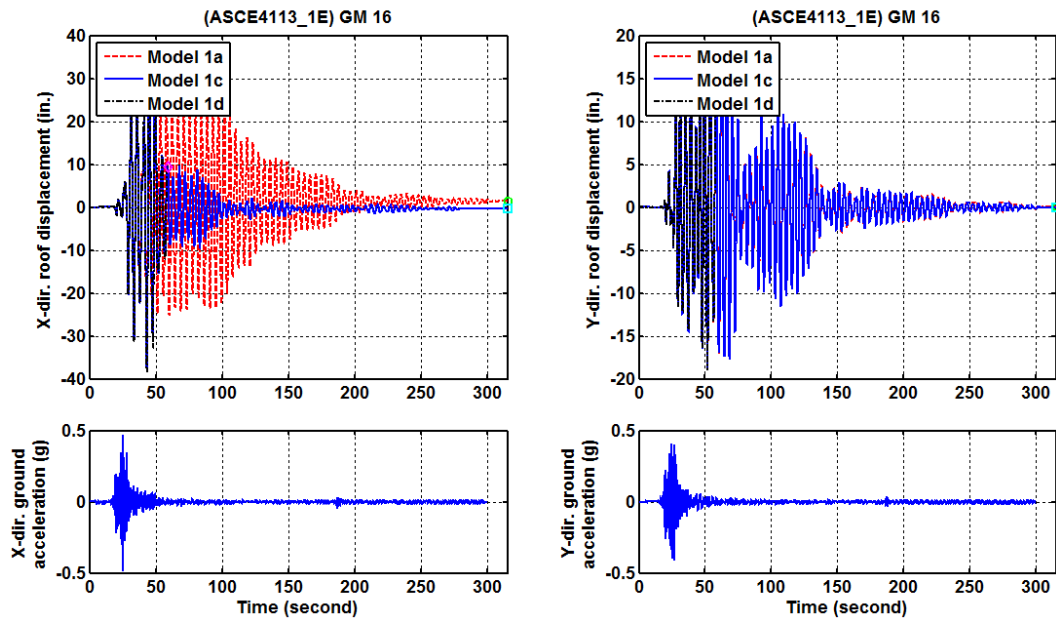


Figure G.34 Roof displacement histories under BSE-1E level ground motion number 16 from different models (Model 1a, Model 1c, and Model 1d).

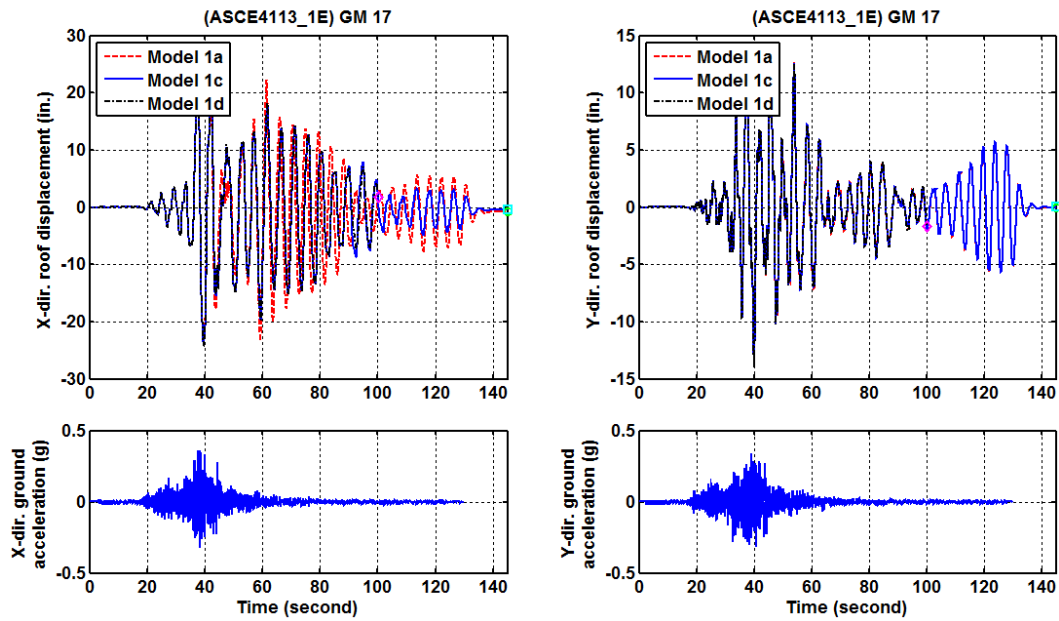


Figure G.35 Roof displacement histories under BSE-1E level ground motion number 17 from different models (Model 1a, Model 1c, and Model 1d).

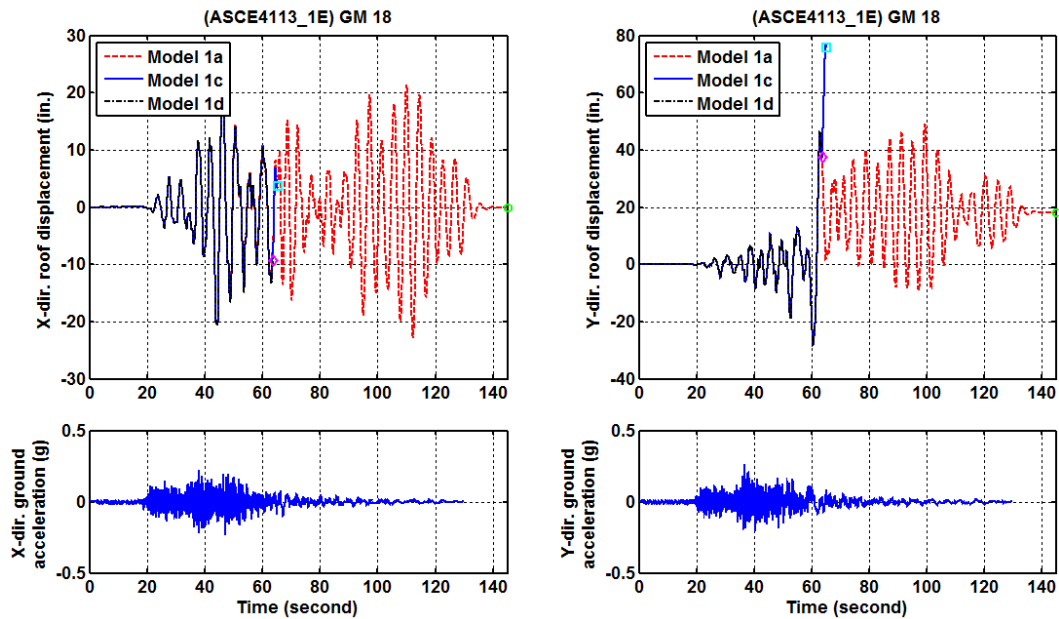


Figure G.36 Roof displacement histories under BSE-1E level ground motion number 18 from different models (Model 1a, Model 1c, and Model 1d).

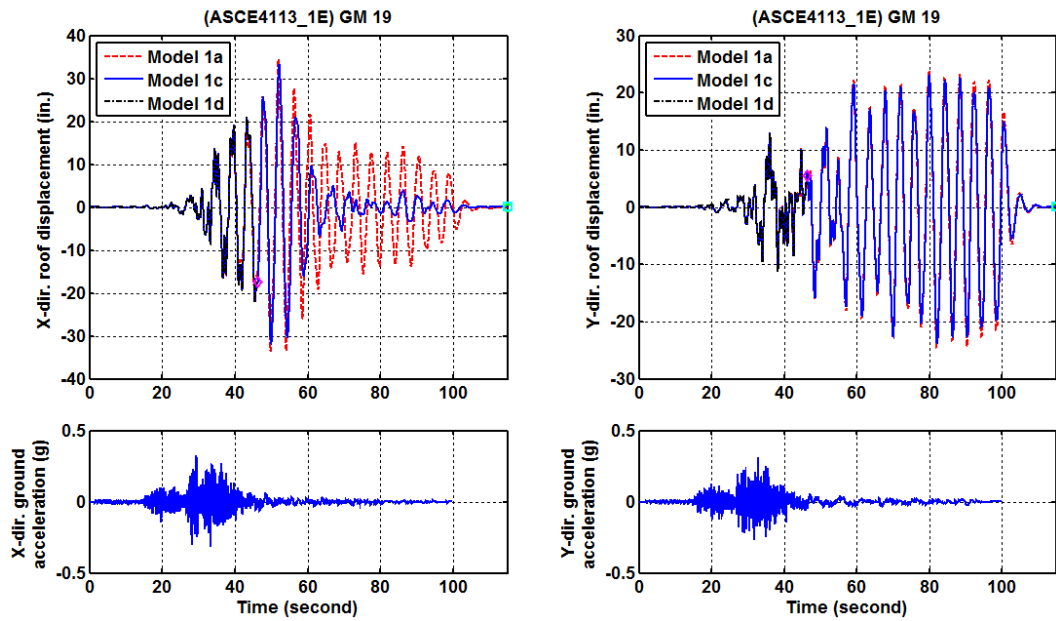


Figure G.37 Roof displacement histories under BSE-1E level ground motion number 19 from different models (Model 1a, Model 1c, and Model 1d).

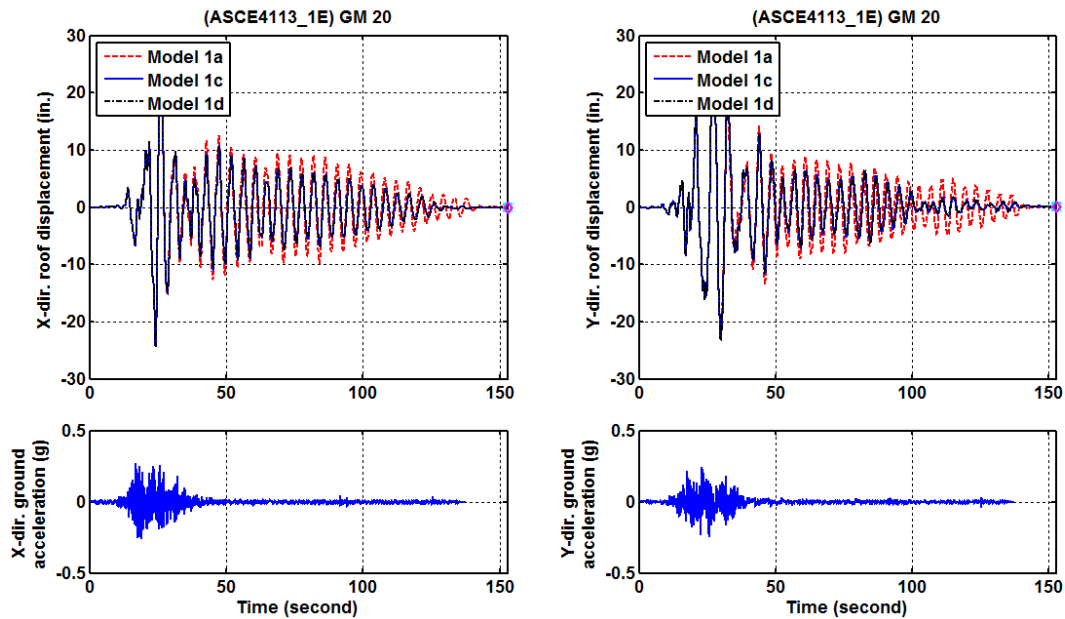


Figure G.38 Roof displacement histories under BSE-1E level ground motion number 20 from different models (Model 1a, Model 1c, and Model 1d).

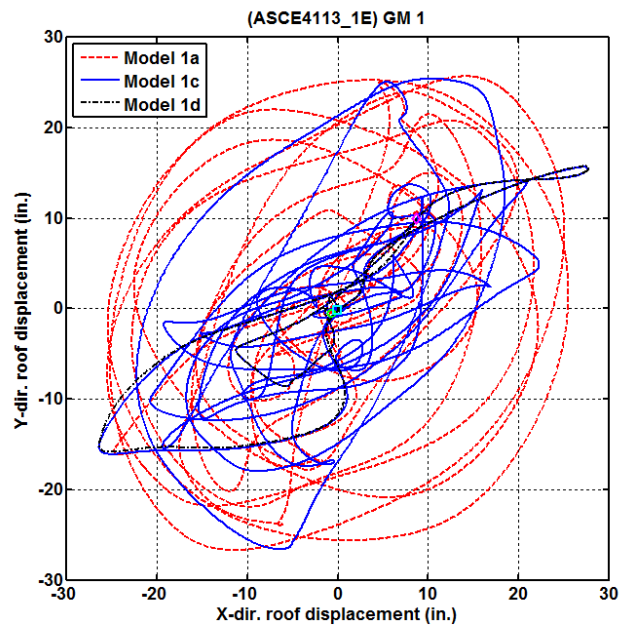


Figure G.39 Roof displacement orbits under BSE-1E level ground motion number 1 from different models (Model 1a, Model 1c, and Model 1d).

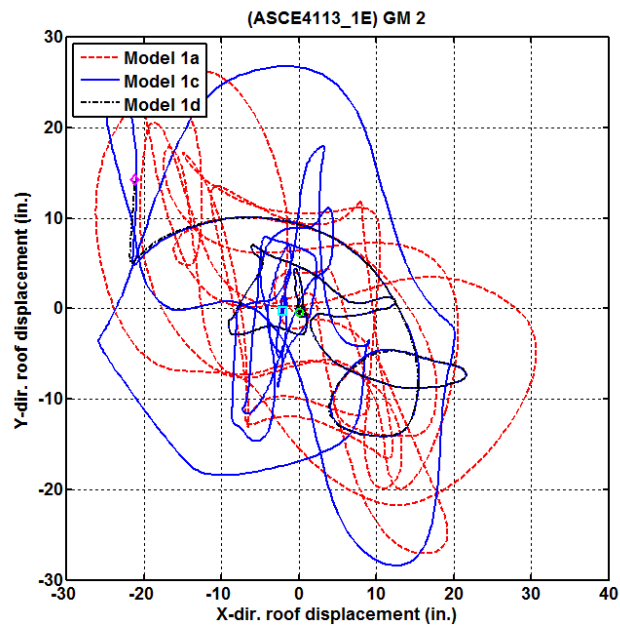


Figure G.40 Roof displacement orbits under BSE-1E level ground motion number 2 from different models (Model 1a, Model 1c, and Model 1d).

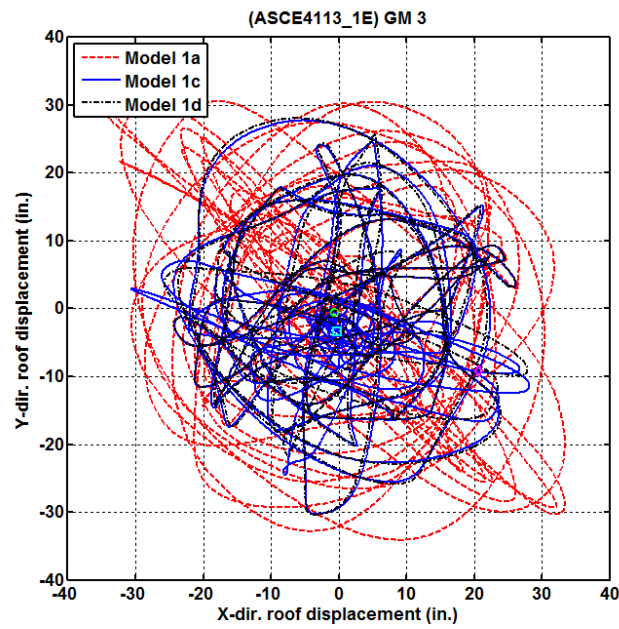


Figure G.41 Roof displacement orbits under BSE-1E level ground motion number 3 from different models (Model 1a, Model 1c, and Model 1d).

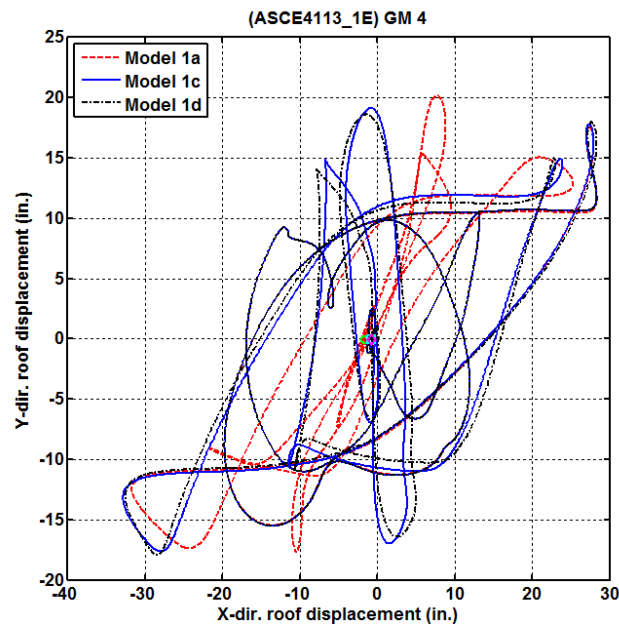


Figure G.42 Roof displacement orbits under BSE-1E level ground motion number 4 from different models (Model 1a, Model 1c, and Model 1d).

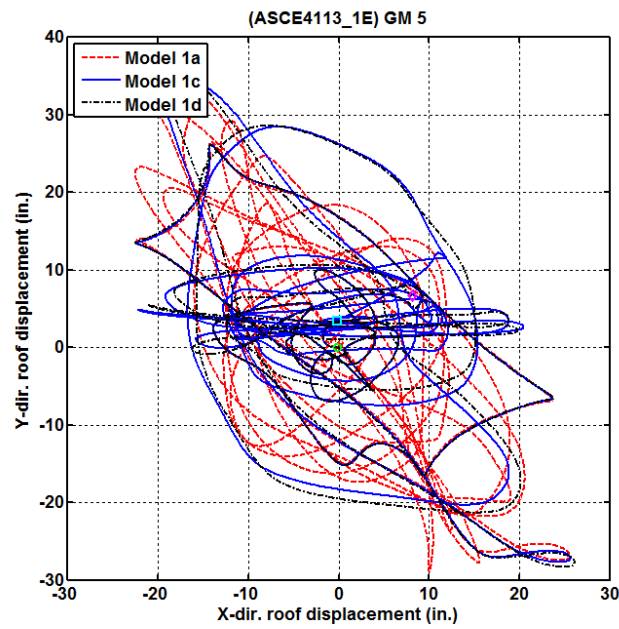


Figure G.43 Roof displacement orbits under BSE-1E level ground motion number 5 from different models (Model 1a, Model 1c, and Model 1d).

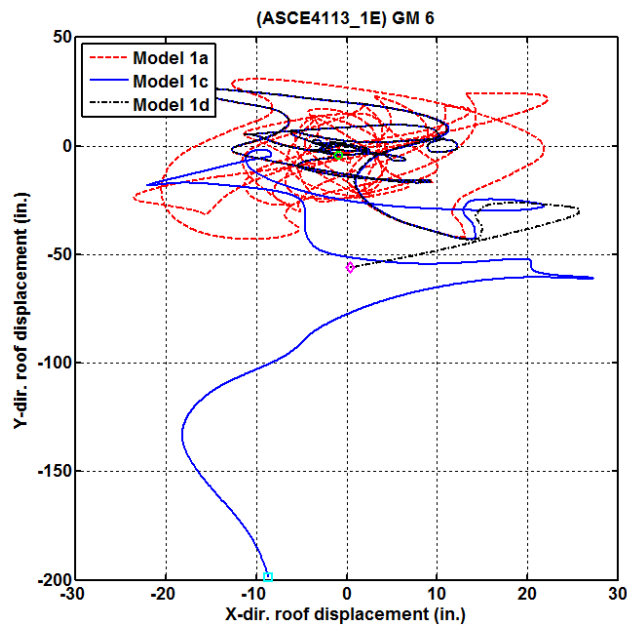


Figure G.44 Roof displacement orbits under BSE-1E level ground motion number 6 from different models (Model 1a, Model 1c, and Model 1d).

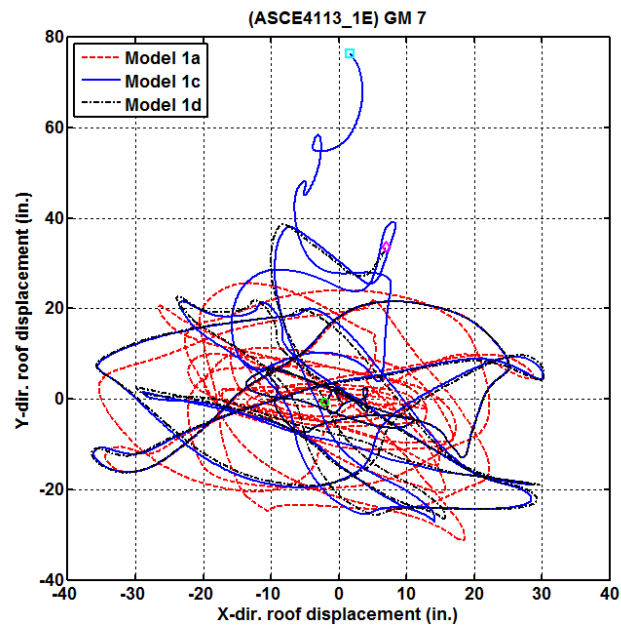


Figure G.45 Roof displacement orbits under BSE-1E level ground motion number 7 from different models (Model 1a, Model 1c, and Model 1d).

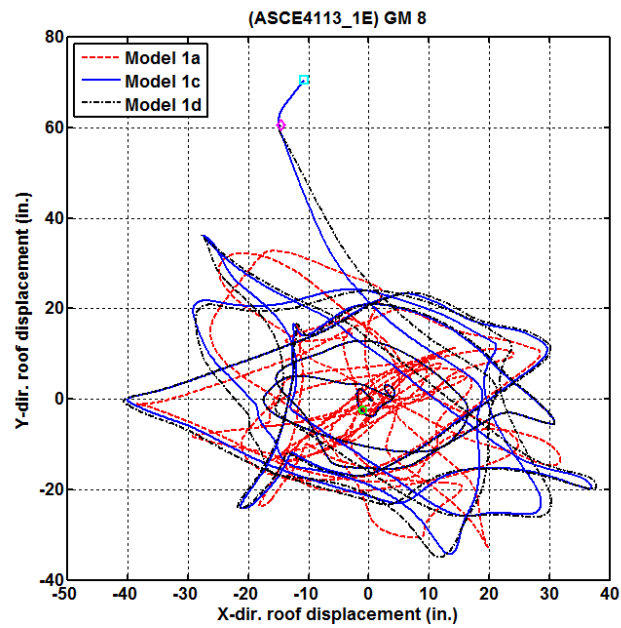


Figure G.46 Roof displacement orbits under BSE-1E level ground motion number 8 from different models (Model 1a, Model 1c, and Model 1d).

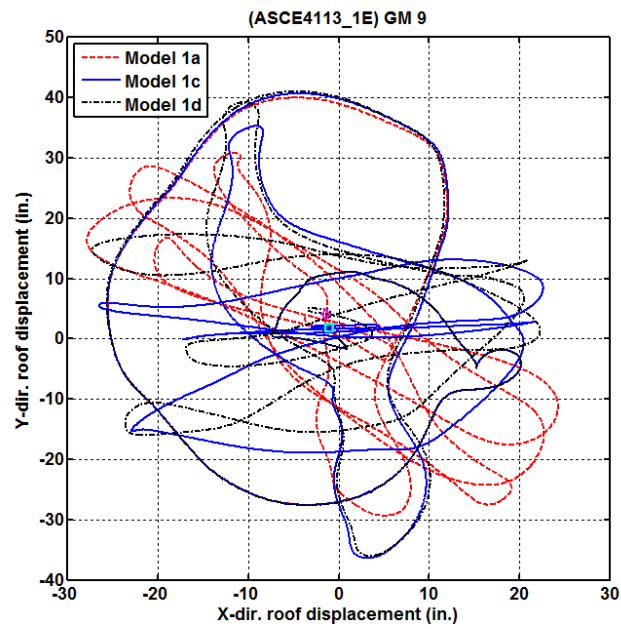


Figure G.47 Roof displacement orbits under BSE-1E level ground motion number 9 from different models (Model 1a, Model 1c, and Model 1d).

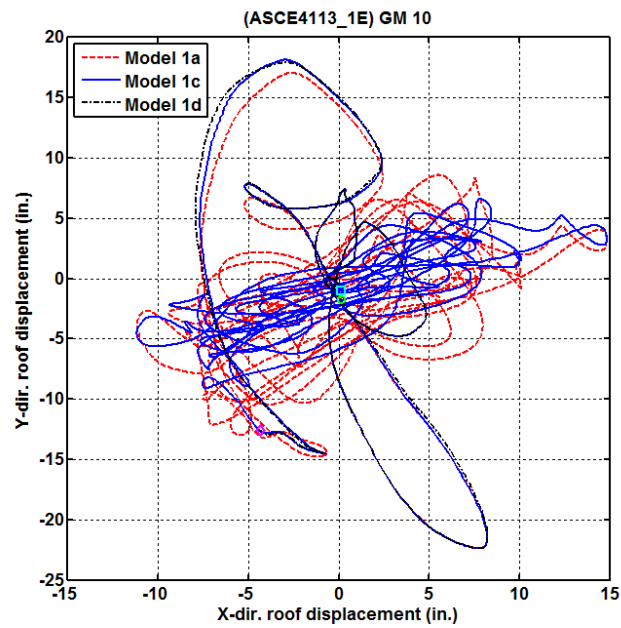


Figure G.48 Roof displacement orbits under BSE-1E level ground motion number 10 from different models (Model 1a, Model 1c, and Model 1d).

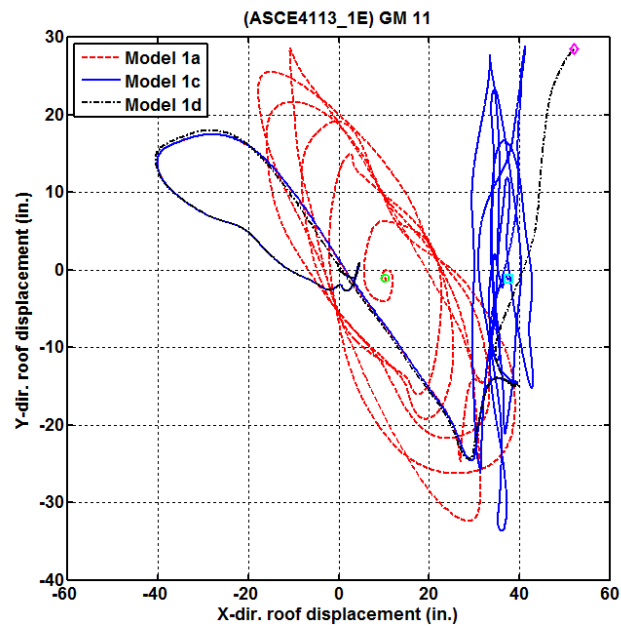


Figure G.49 Roof displacement orbits under BSE-1E level ground motion number 11 from different models (Model 1a, Model 1c, and Model 1d).

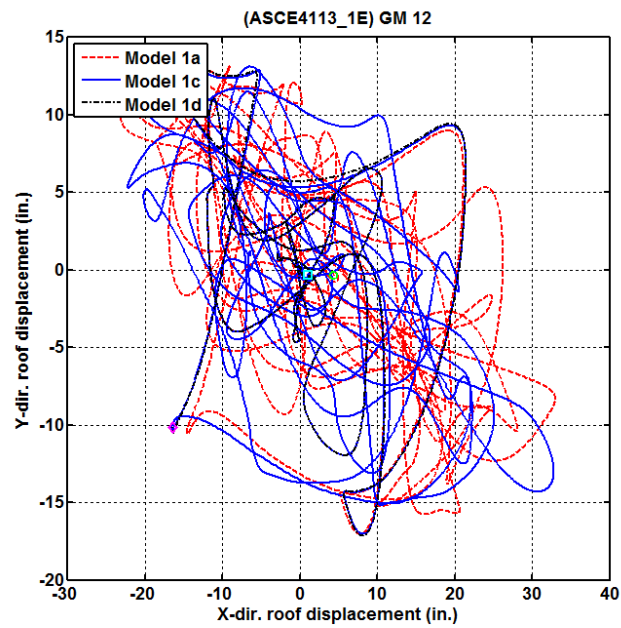


Figure G.50 Roof displacement orbits under BSE-1E level ground motion number 12 from different models (Model 1a, Model 1c, and Model 1d).

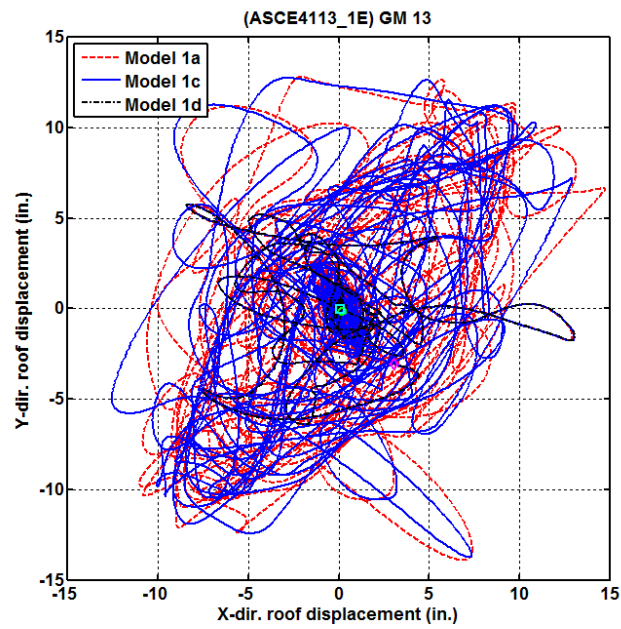


Figure G.51 Roof displacement orbits under BSE-1E level ground motion number 13 from different models (Model 1a, Model 1c, and Model 1d).

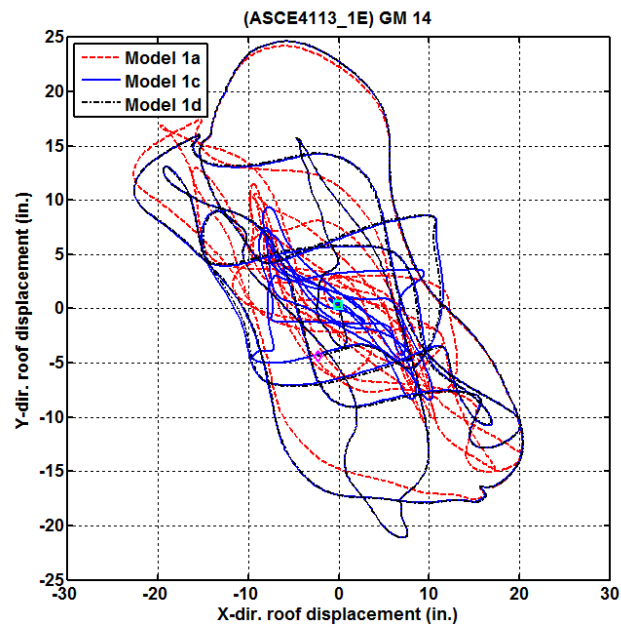


Figure G.52 Roof displacement orbits under BSE-1E level ground motion number 14 from different models (Model 1a, Model 1c, and Model 1d).

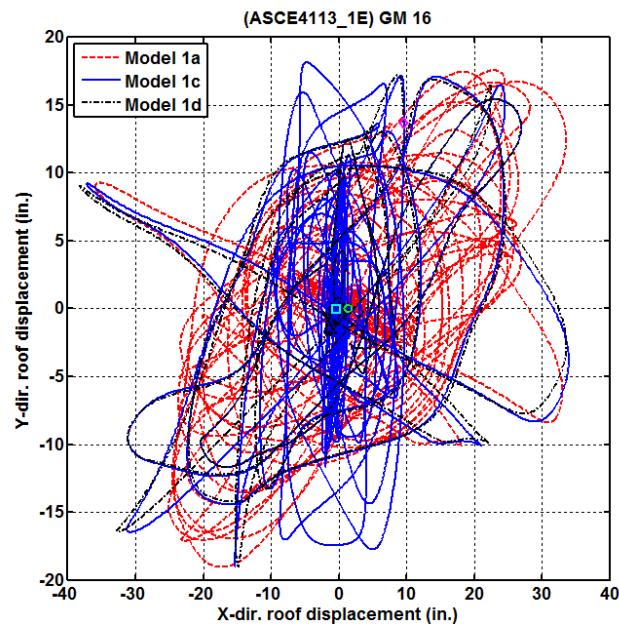


Figure G.53 Roof displacement orbits under BSE-1E level ground motion number 16 from different models (Model 1a, Model 1c, and Model 1d).

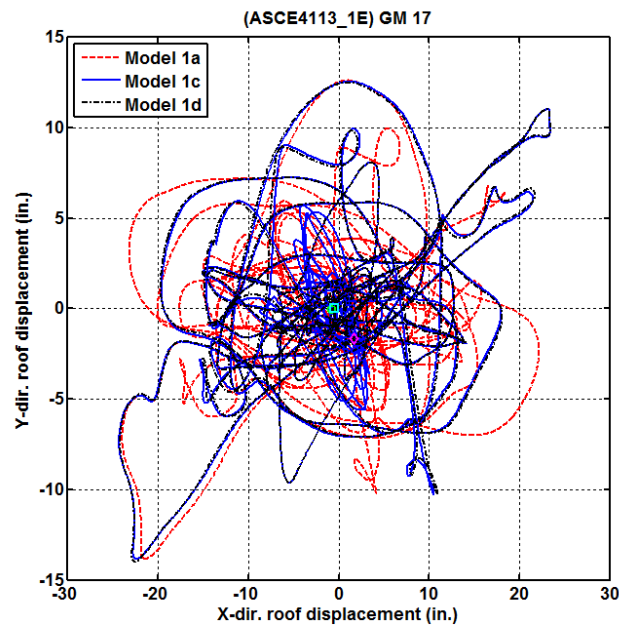


Figure G.54 Roof displacement orbits under BSE-1E level ground motion number 17 from different models (Model 1a, Model 1c, and Model 1d).

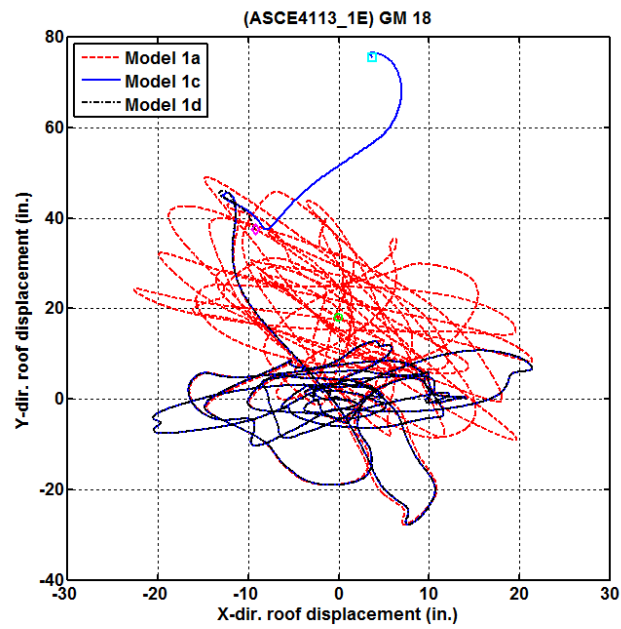


Figure G.55 Roof displacement orbits under BSE-1E level ground motion number 18 from different models (Model 1a, Model 1c, and Model 1d).

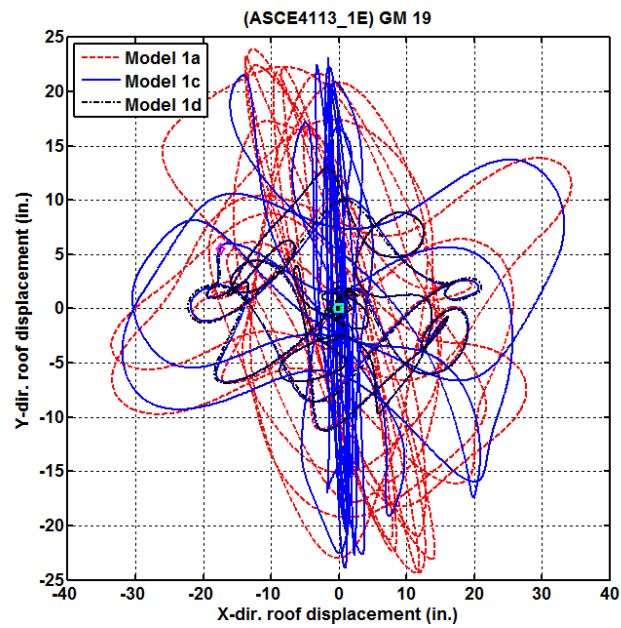


Figure G.56 Roof displacement orbits under BSE-1E level ground motion number 19 from different models (Model 1a, Model 1c, and Model 1d).

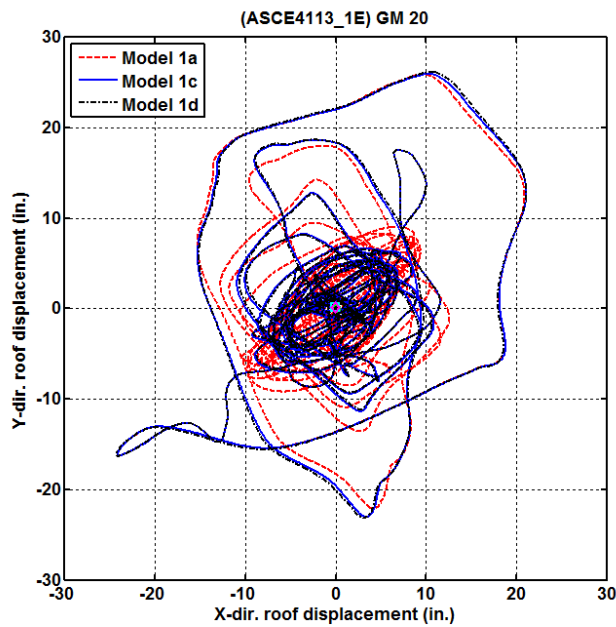


Figure G.57 Roof displacement orbits under BSE-1E level ground motion number 20 from different models (Model 1a, Model 1c, and Model 1d).

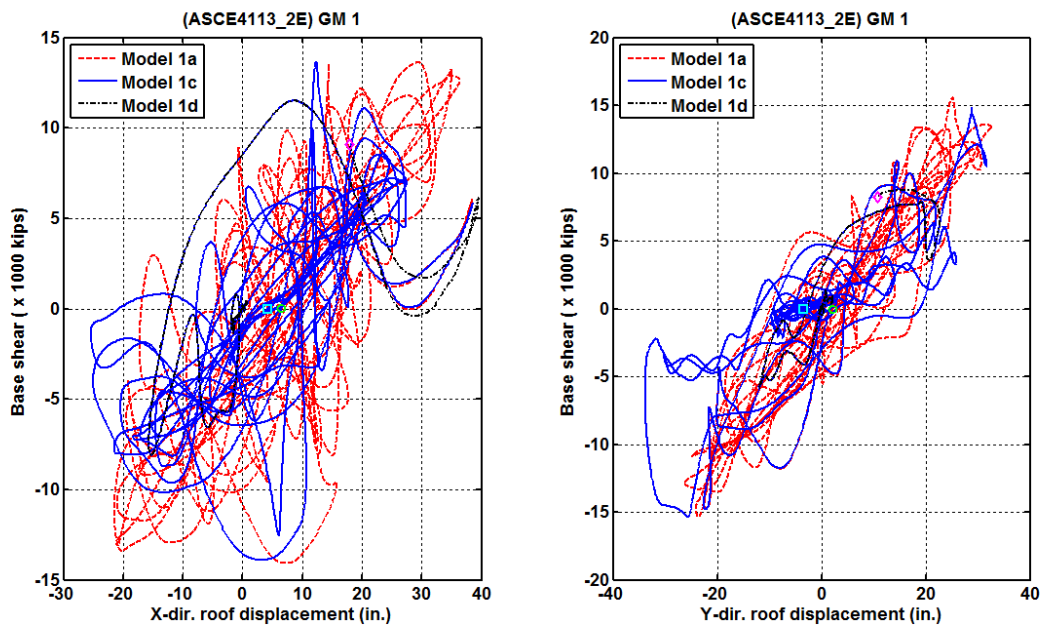


Figure G.58 Base shear versus roof displacement relationships under BSE-2E level ground motion number 1 from different models (Model 1a, Model 1c, and Model 1d).

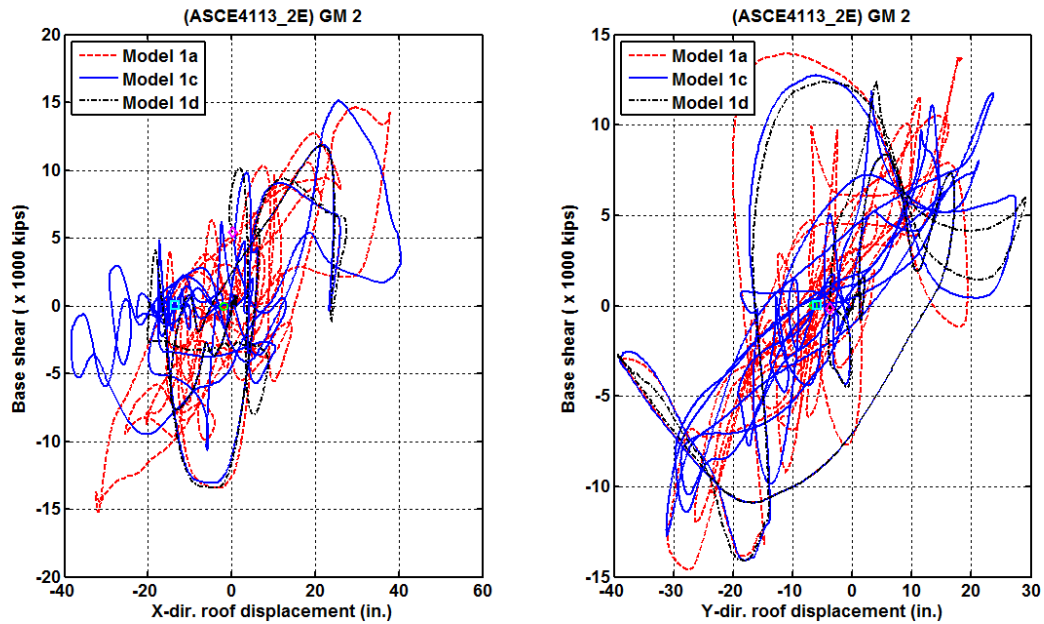


Figure G.59 Base shear versus roof displacement relationships under BSE-2E level ground motion number 2 from different models (Model 1a, Model 1c, and Model 1d).

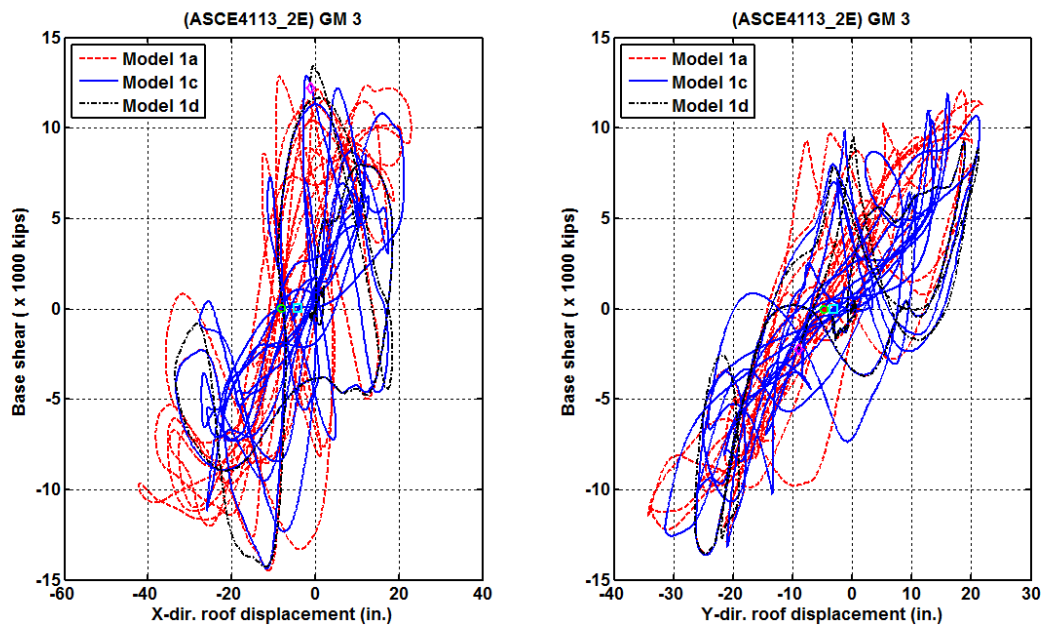


Figure G.60 Base shear versus roof displacement relationships under BSE-2E level ground motion number 3 from different models (Model 1a, Model 1c, and Model 1d).

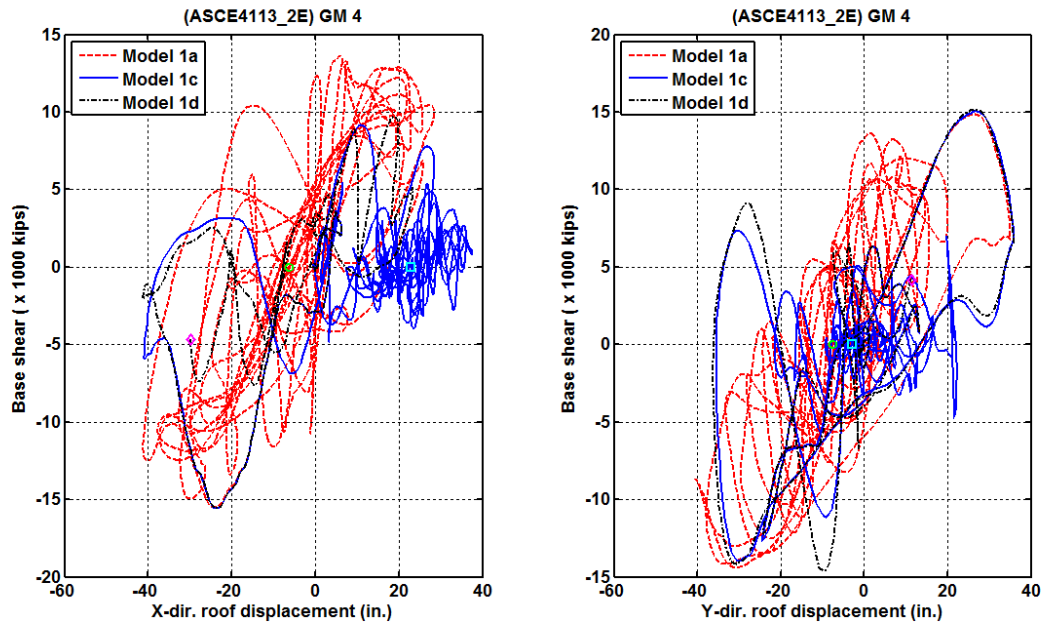


Figure G.61 Base shear versus roof displacement relationships under BSE-2E level ground motion number 4 from different models (Model 1a, Model 1c, and Model 1d).

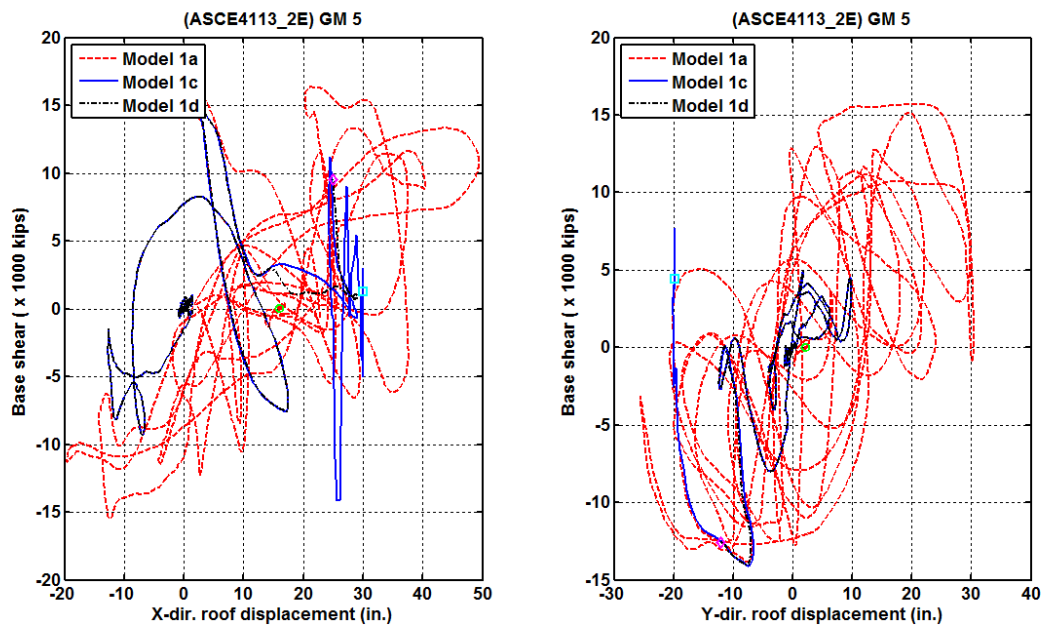


Figure G.62 Base shear versus roof displacement relationships under BSE-2E level ground motion number 5 from different models (Model 1a, Model 1c, and Model 1d).

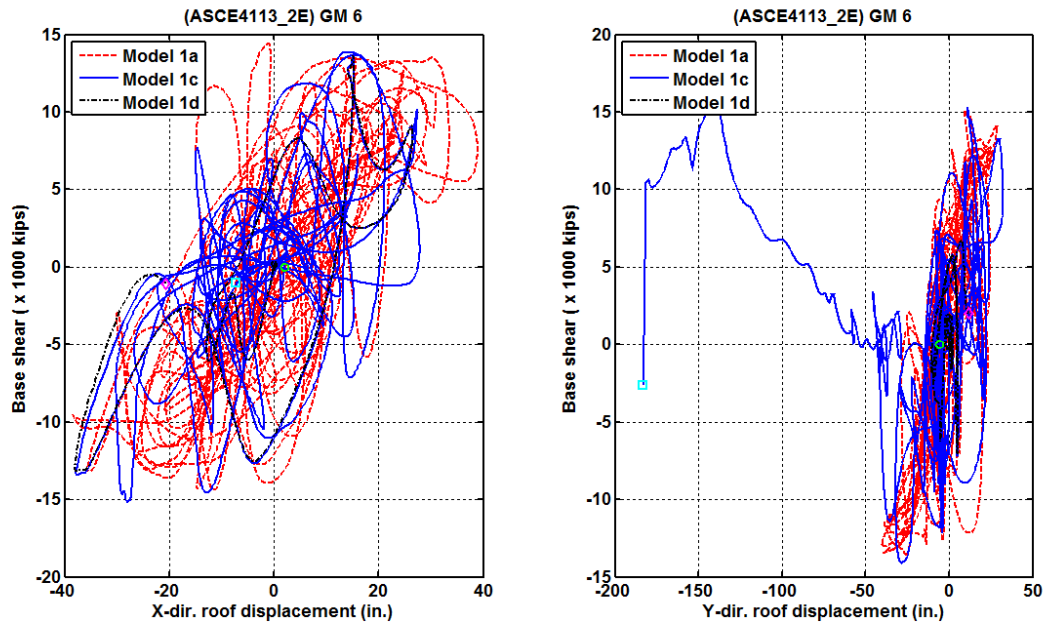


Figure G.63 Base shear versus roof displacement relationships under BSE-2E level ground motion number 6 from different models (Model 1a, Model 1c, and Model 1d).

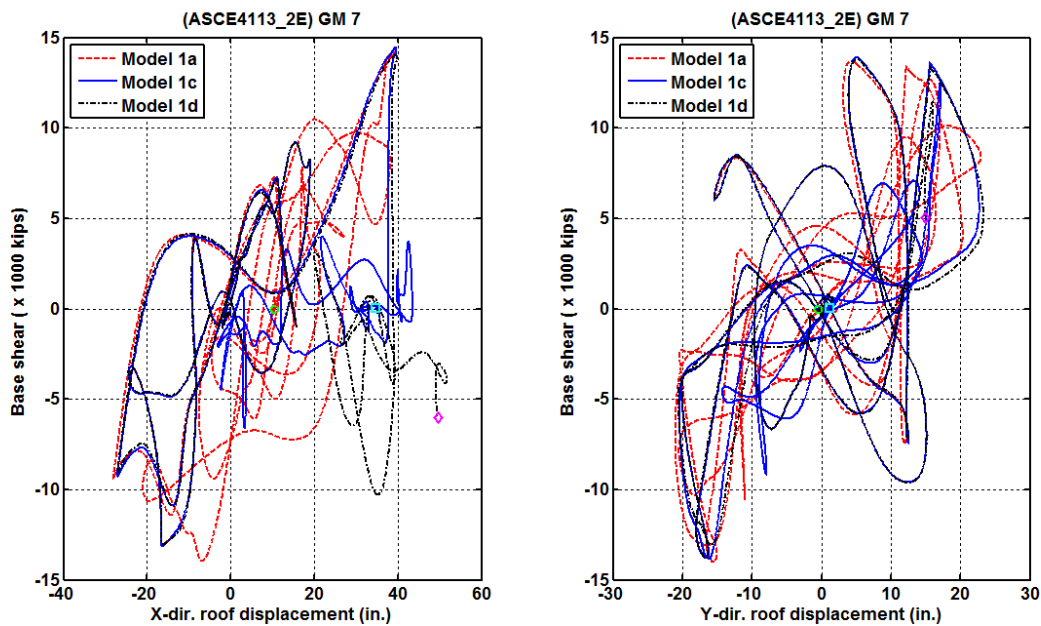


Figure G.64 Base shear versus roof displacement relationships under BSE-2E level ground motion number 7 from different models (Model 1a, Model 1c, and Model 1d).

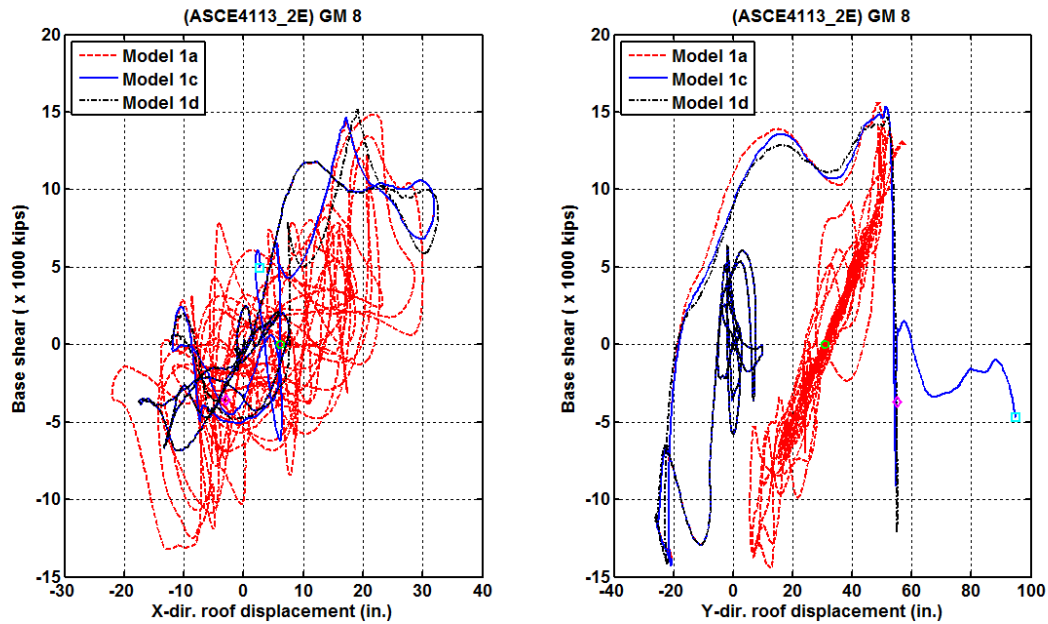


Figure G.65 Base shear versus roof displacement relationships under BSE-2E level ground motion number 8 from different models (Model 1a, Model 1c, and Model 1d).

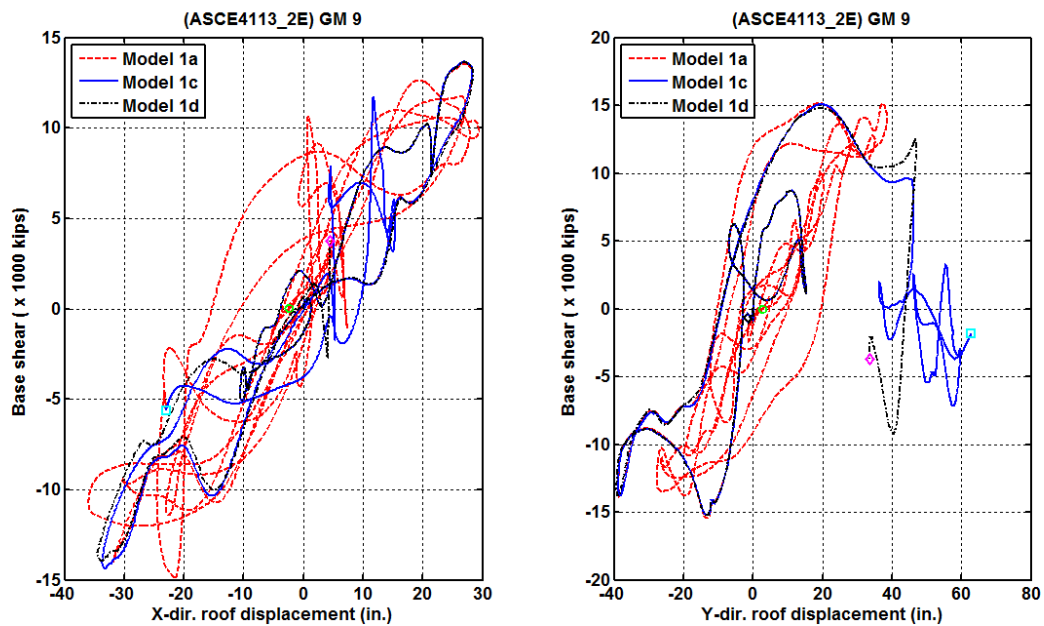


Figure G.66 Base shear versus roof displacement relationships under BSE-2E level ground motion number 9 from different models (Model 1a, Model 1c, and Model 1d).

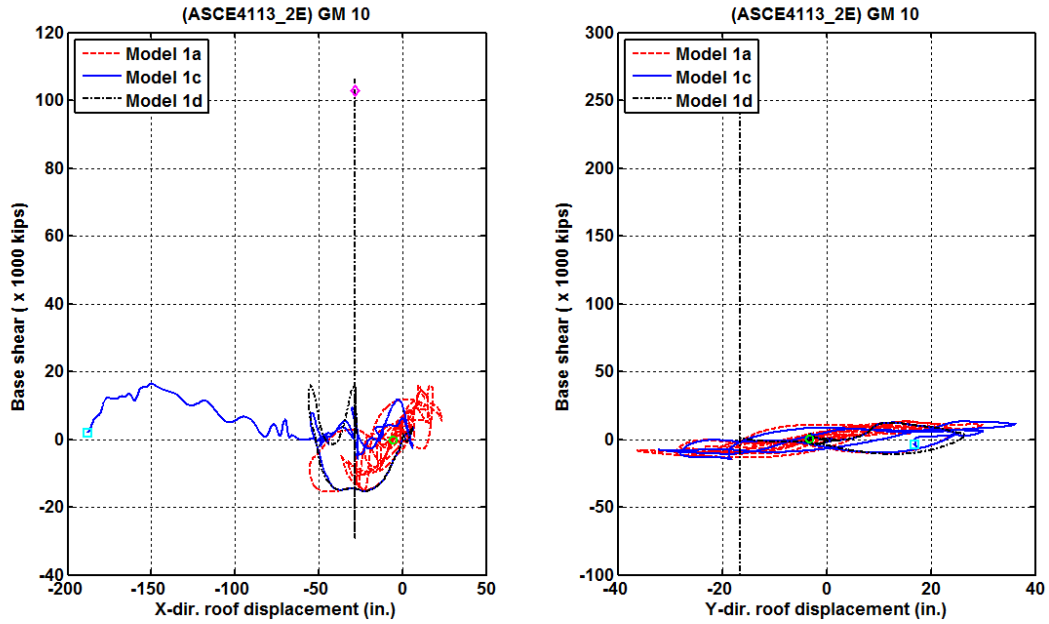


Figure G.67 Base shear versus roof displacement relationships under BSE-2E level ground motion number 10 from different models (Model 1a, Model 1c, and Model 1d).

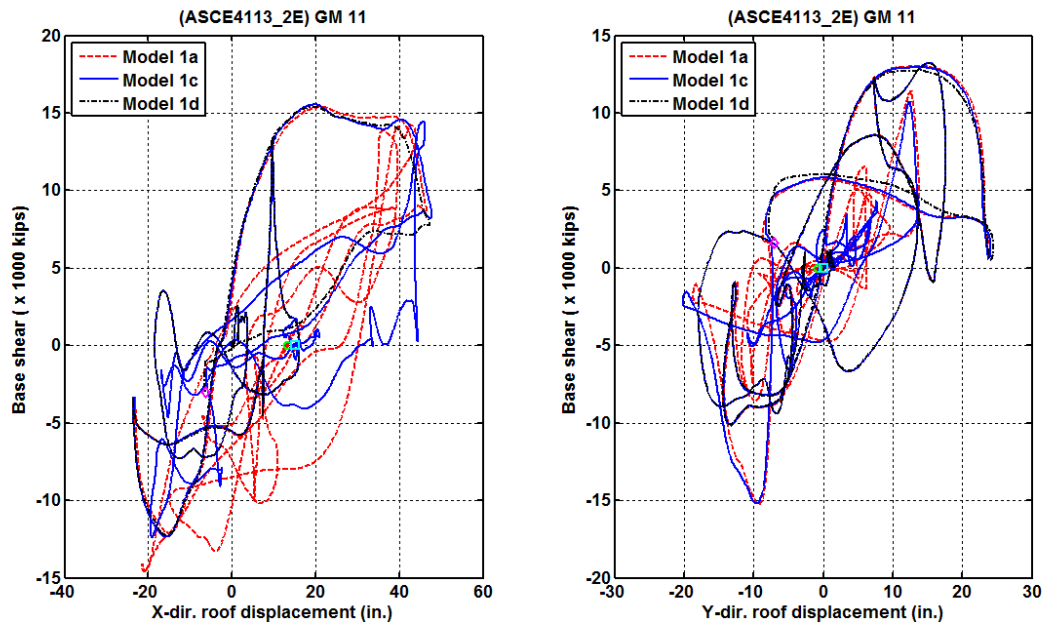


Figure G.68 Base shear versus roof displacement relationships under BSE-2E level ground motion number 11 from different models (Model 1a, Model 1c, and Model 1d).

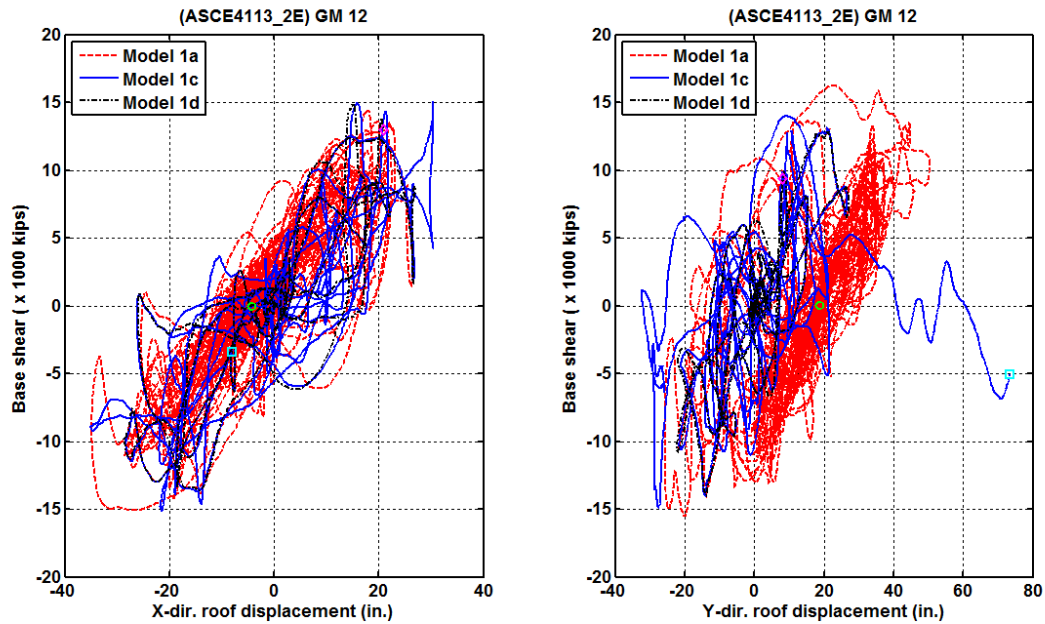


Figure G.69 Base shear versus roof displacement relationships under BSE-2E level ground motion number 12 from different models (Model 1a, Model 1c, and Model 1d).

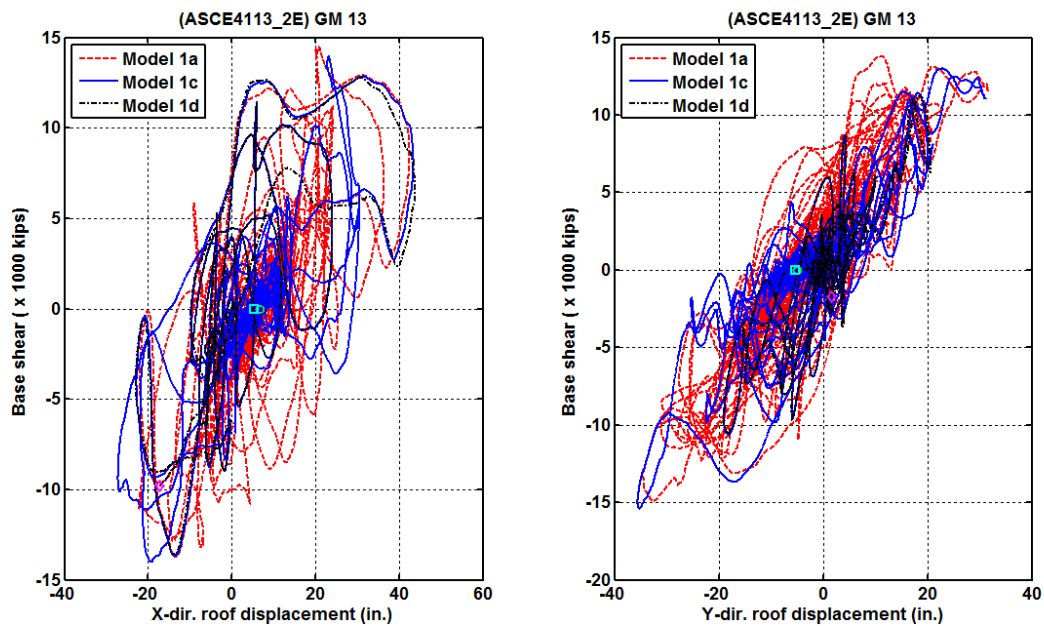


Figure G.70 Base shear versus roof displacement relationships under BSE-2E level ground motion number 13 from different models (Model 1a, Model 1c, and Model 1d).

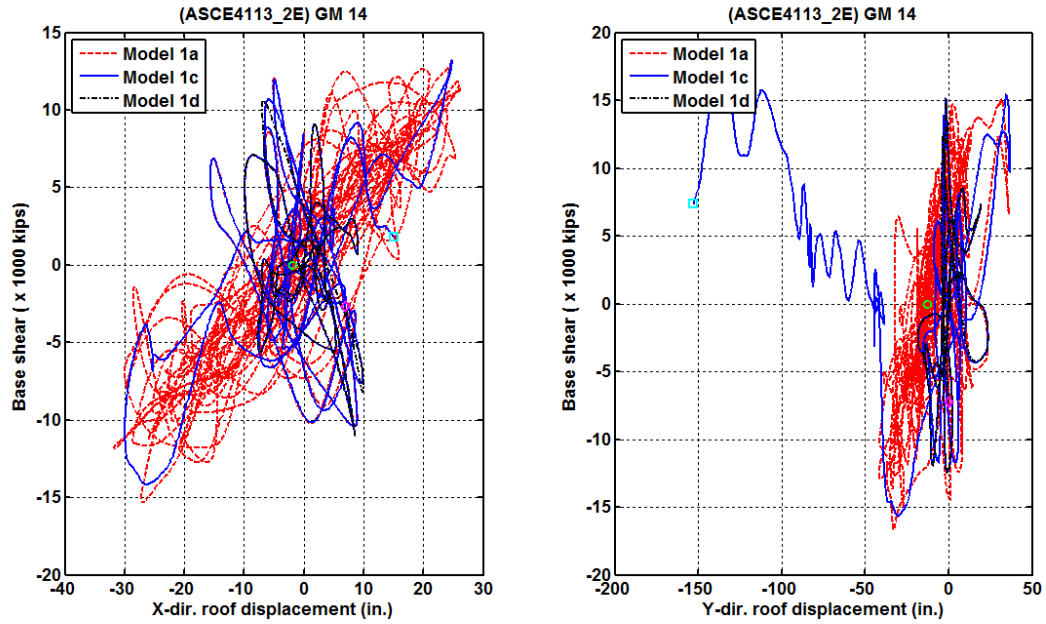


Figure G.71 Base shear versus roof displacement relationships under BSE-2E level ground motion number 14 from different models (Model 1a, Model 1c, and Model 1d).

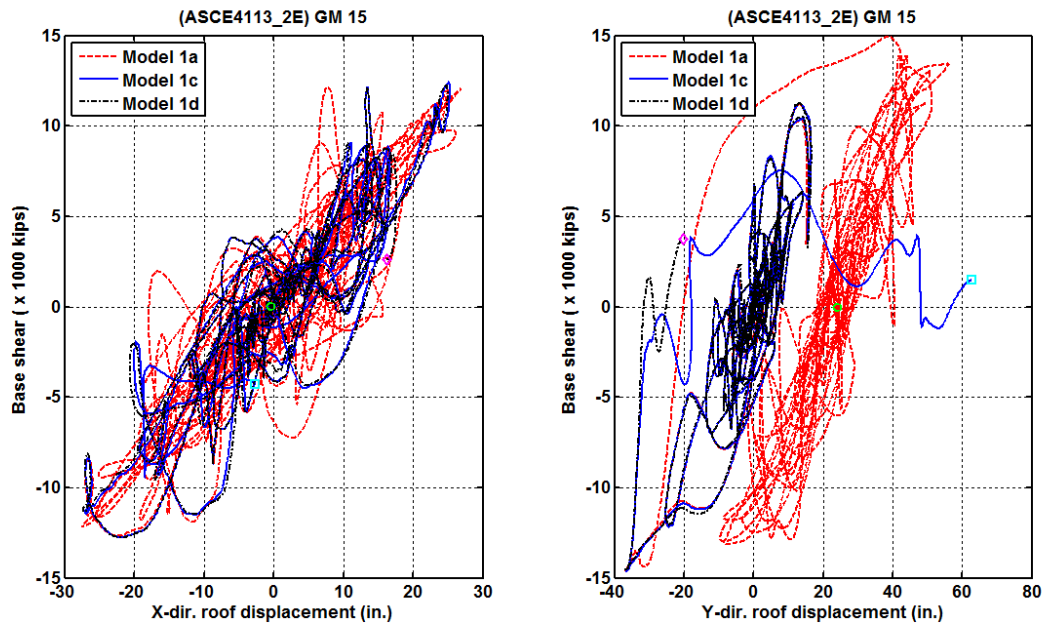


Figure G.72 Base shear versus roof displacement relationships under BSE-2E level ground motion number 15 from different models (Model 1a, Model 1c, and Model 1d).

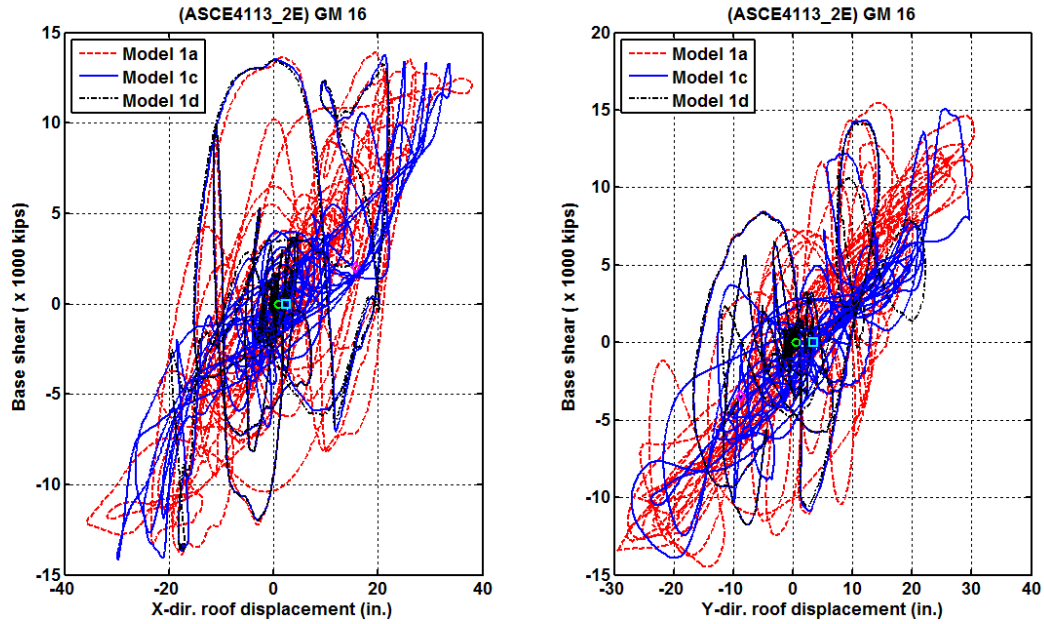


Figure G.73 Base shear versus roof displacement relationships under BSE-2E level ground motion number 16 from different models (Model 1a, Model 1c, and Model 1d).

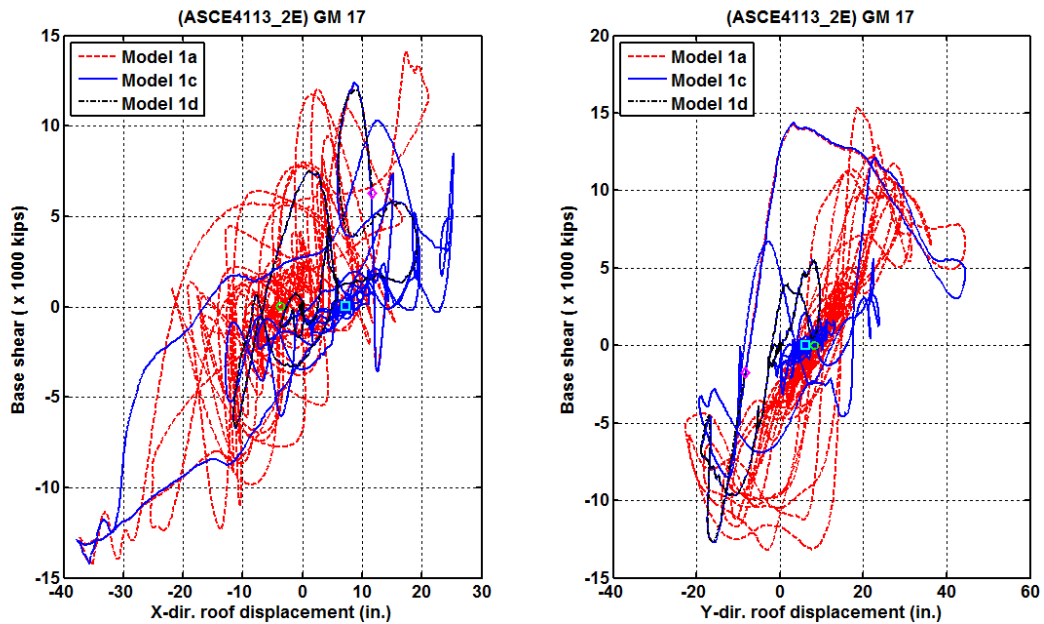


Figure G.74 Base shear versus roof displacement relationships under BSE-2E level ground motion number 17 from different models (Model 1a, Model 1c, and Model 1d).

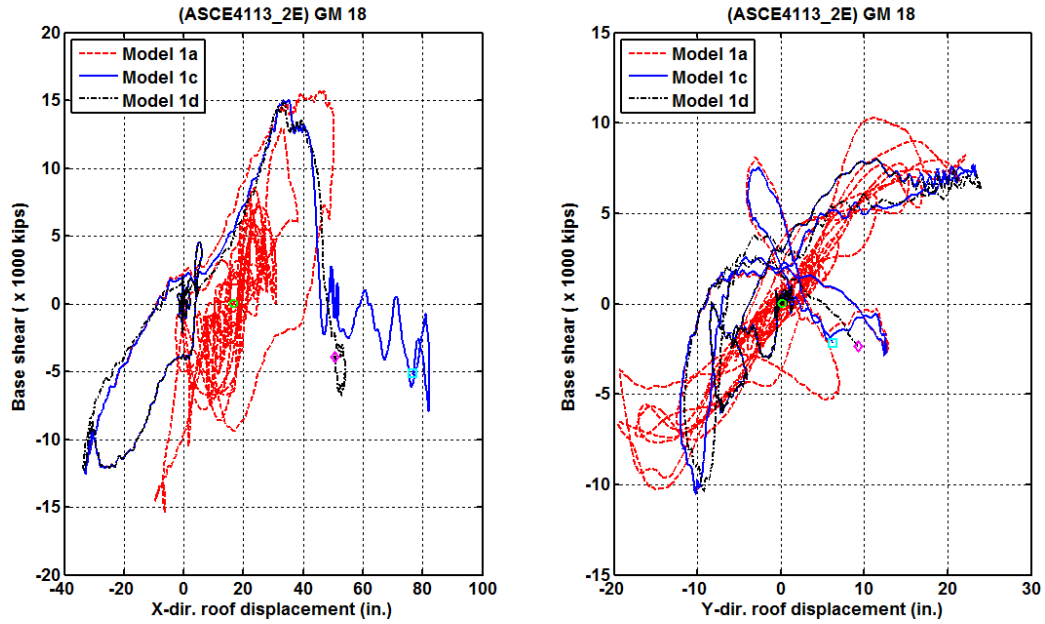


Figure G.75 Base shear versus roof displacement relationships under BSE-2E level ground motion number 18 from different models (Model 1a, Model 1c, and Model 1d).

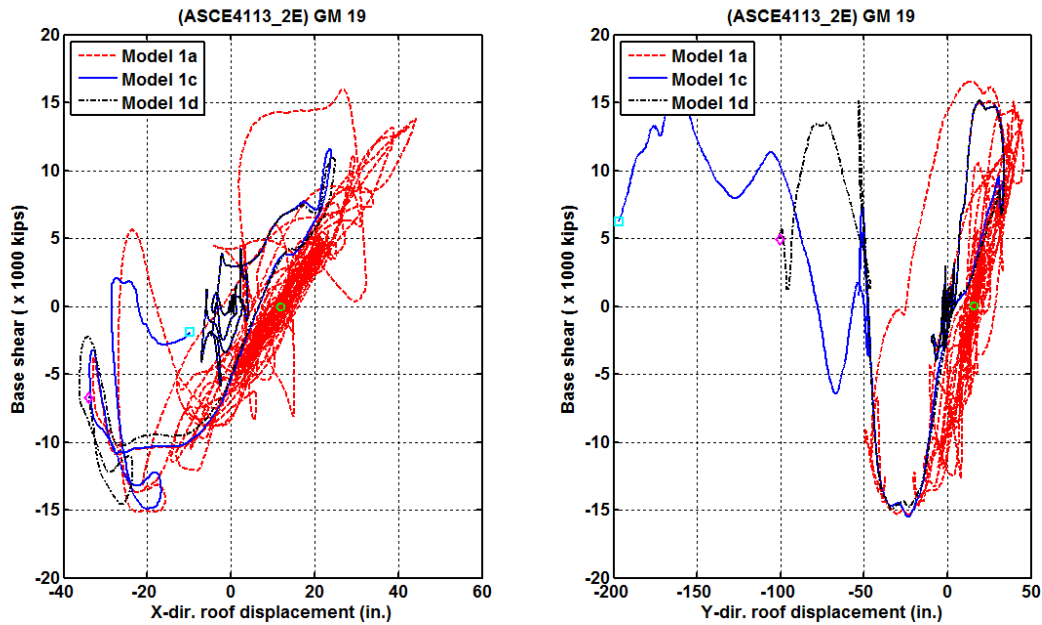


Figure G.76 Base shear versus roof displacement relationships under BSE-2E level ground motion number 19 from different models (Model 1a, Model 1c, and Model 1d).

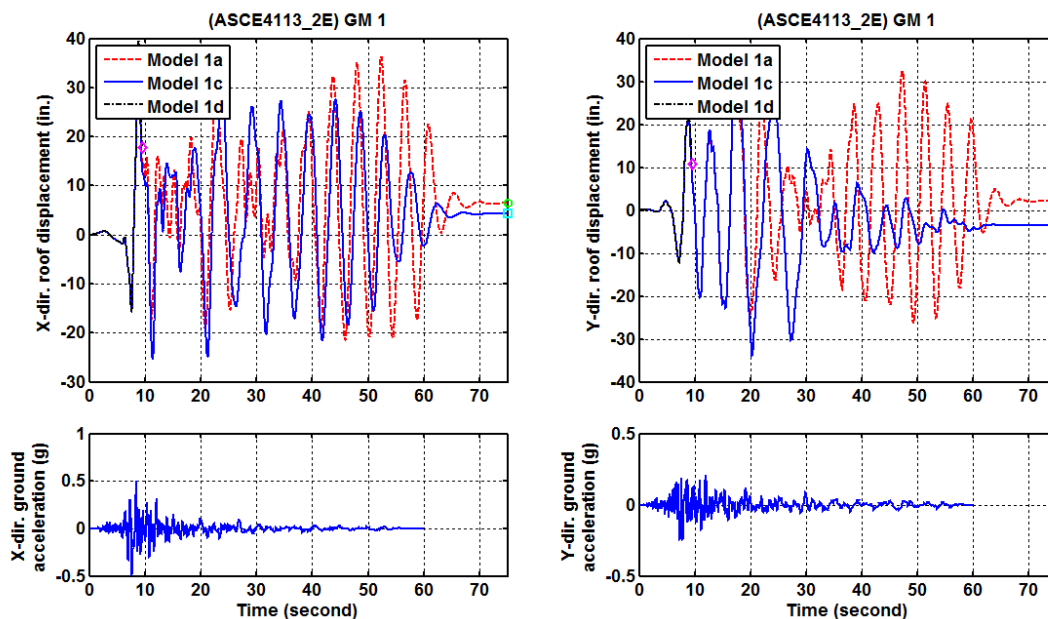


Figure G.77 Roof displacement histories under BSE-2E level ground motion number 1 from different models (Model 1a, Model 1c, and Model 1d).

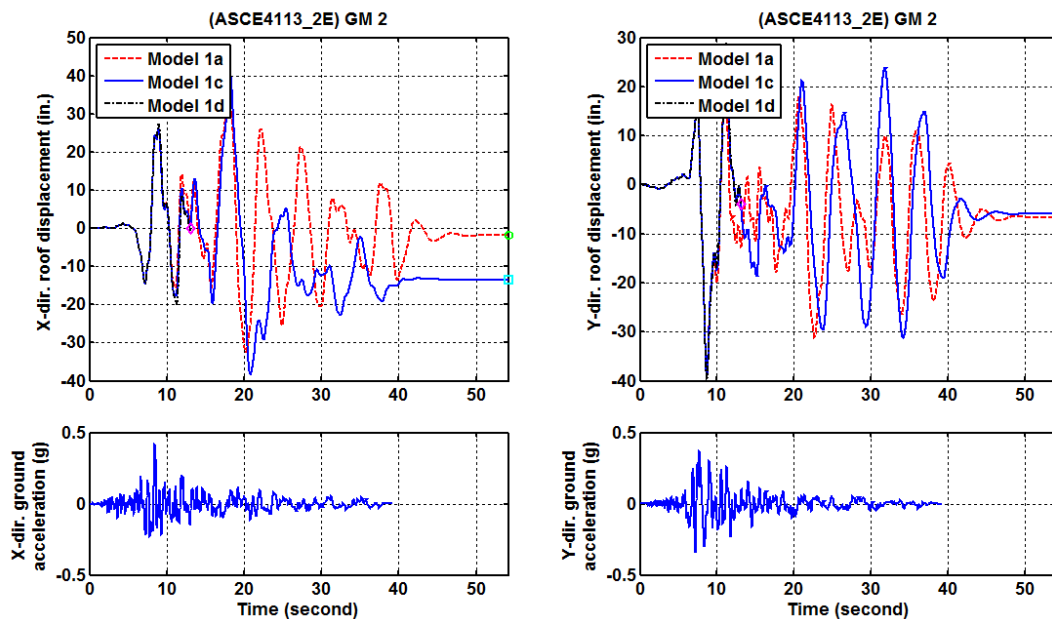


Figure G.78 Roof displacement histories under BSE-2E level ground motion number 2 from different models (Model 1a, Model 1c, and Model 1d).

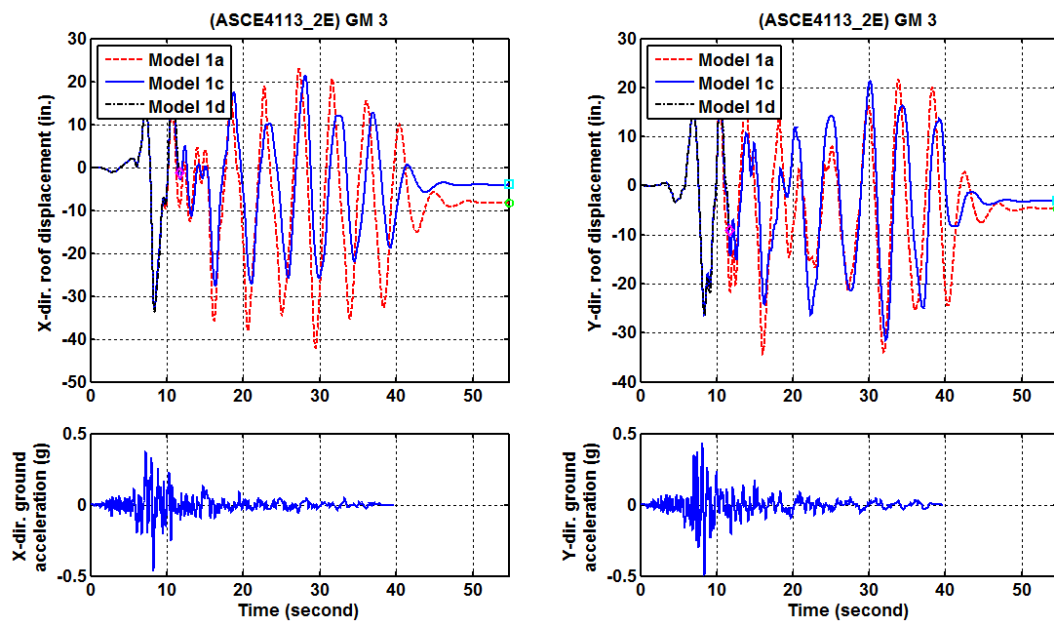


Figure G.79 Roof displacement histories under BSE-2E level ground motion number 3 from different models (Model 1a, Model 1c, and Model 1d).

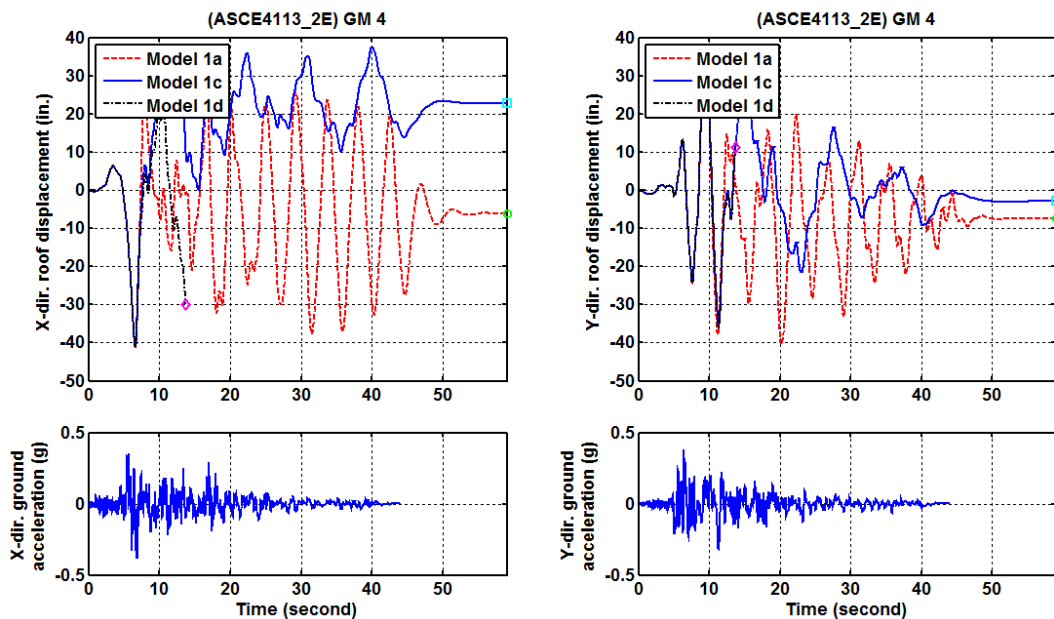


Figure G.80 Roof displacement histories under BSE-2E level ground motion number 4 from different models (Model 1a, Model 1c, and Model 1d).

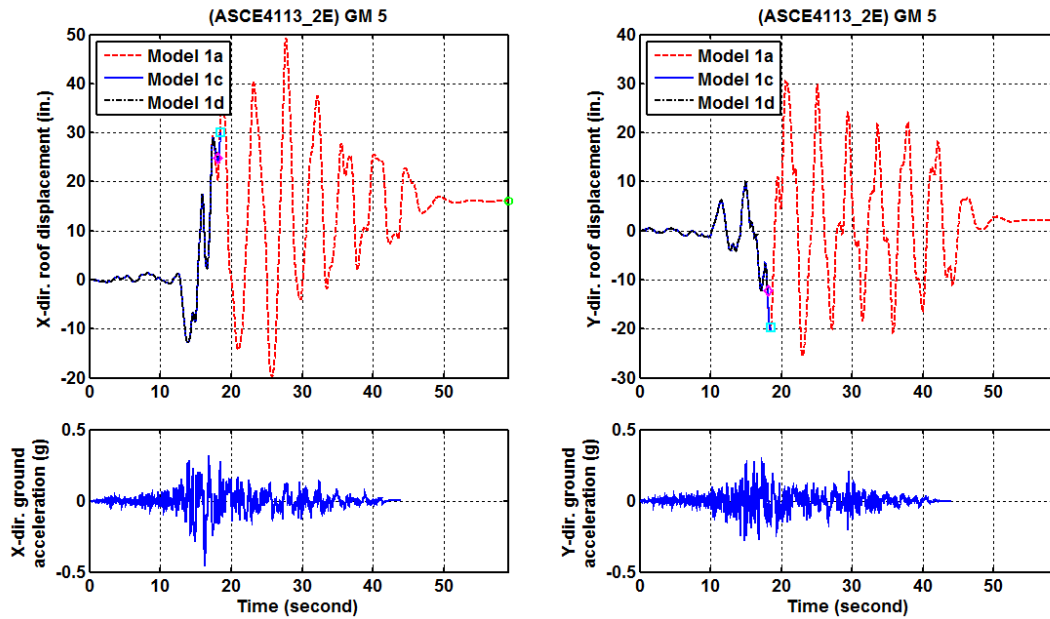


Figure G.81 Roof displacement histories under BSE-2E level ground motion number 5 from different models (Model 1a, Model 1c, and Model 1d).

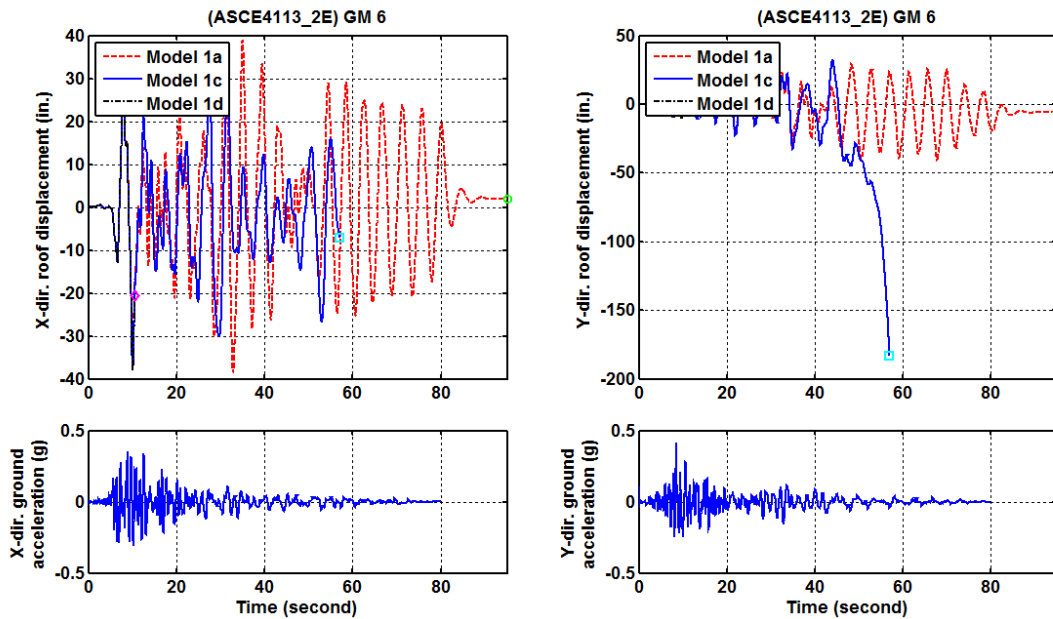


Figure G.82 Roof displacement histories under BSE-2E level ground motion number 6 from different models (Model 1a, Model 1c, and Model 1d).

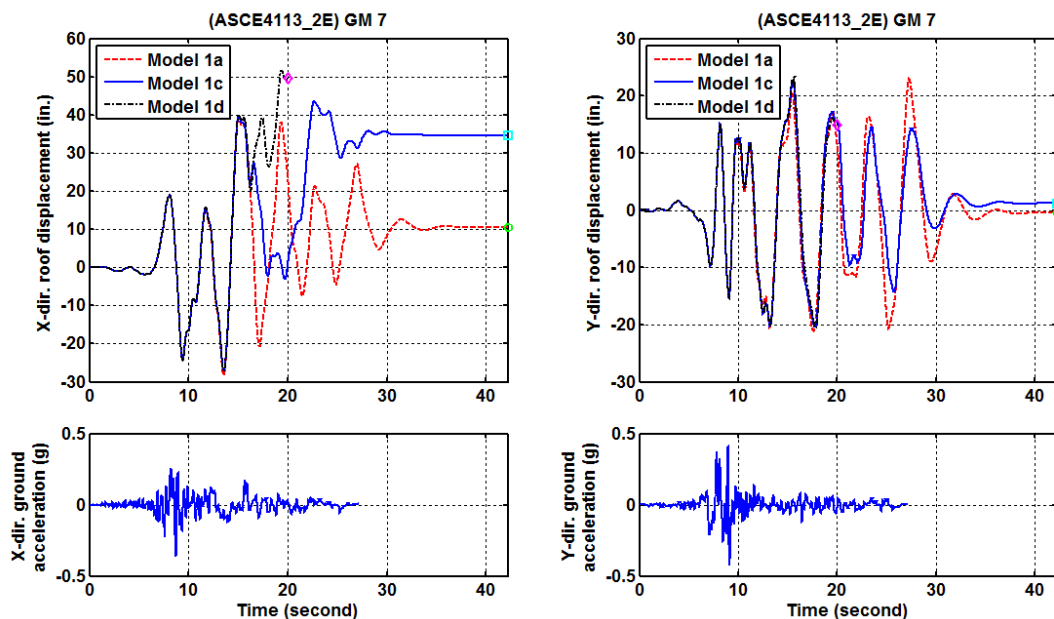


Figure G.83 Roof displacement histories under BSE-2E level ground motion number 7 from different models (Model 1a, Model 1c, and Model 1d).

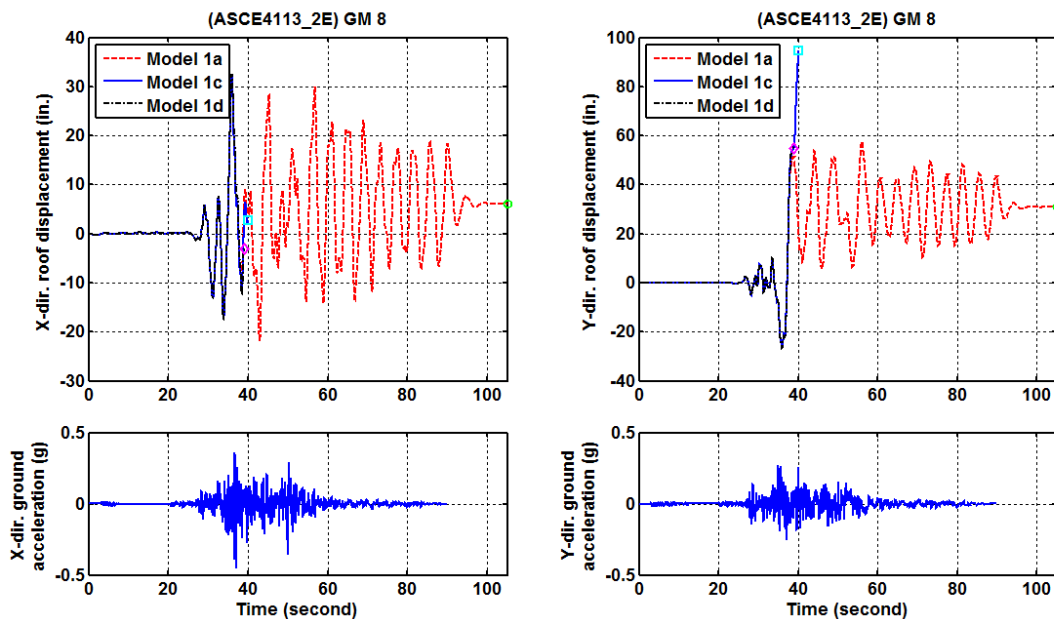


Figure G.84 Roof displacement histories under BSE-2E level ground motion number 8 from different models (Model 1a, Model 1c, and Model 1d).

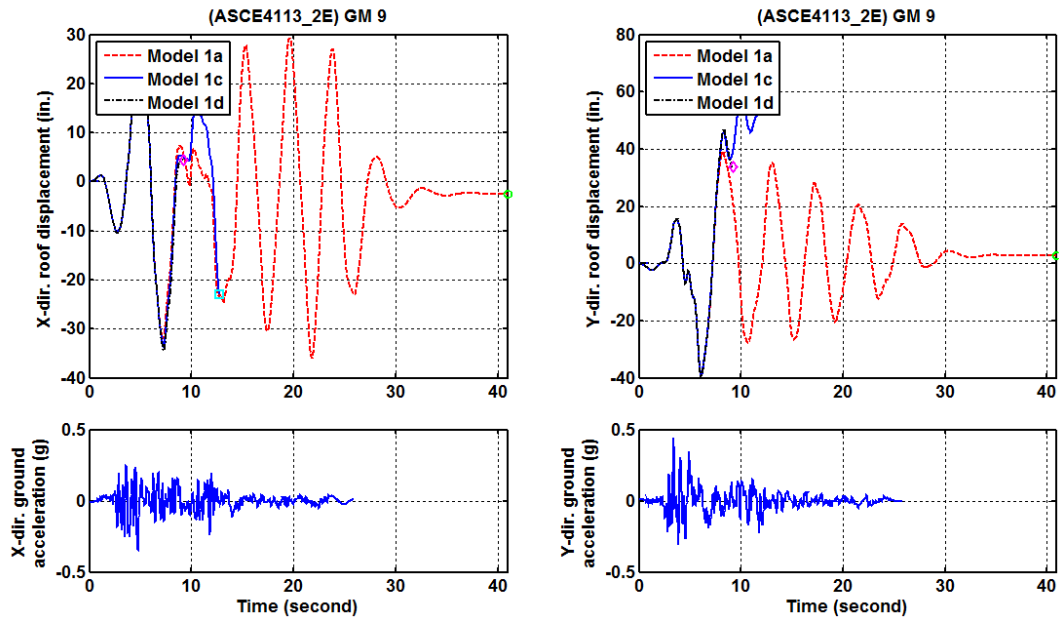


Figure G.85 Roof displacement histories under BSE-2E level ground motion number 9 from different models (Model 1a, Model 1c, and Model 1d).

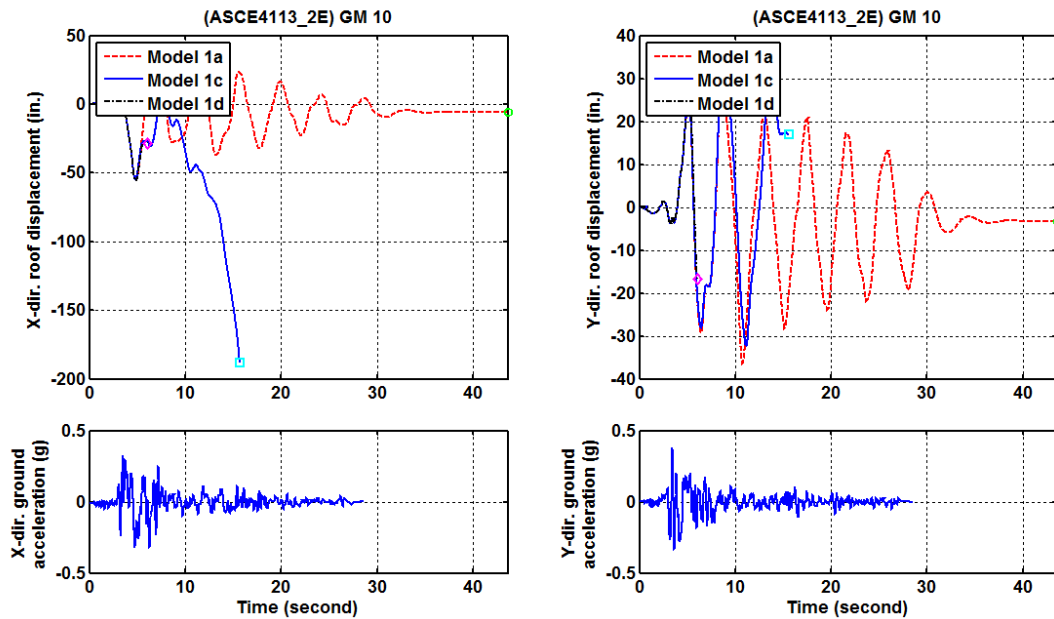


Figure G.86 Roof displacement histories under BSE-2E level ground motion number 10 from different models (Model 1a, Model 1c, and Model 1d).

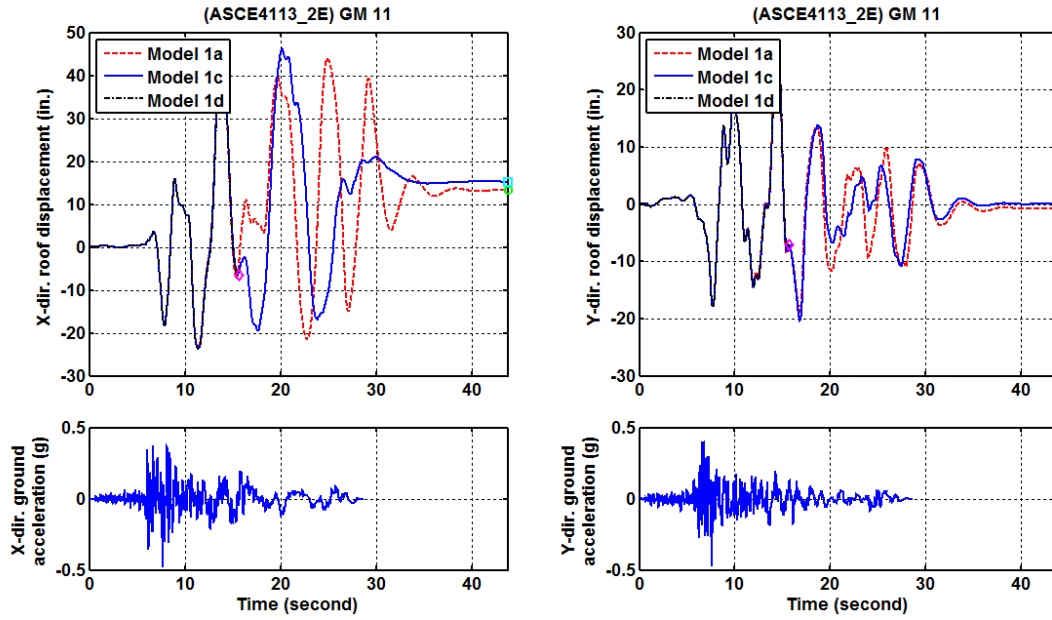


Figure G.87 Roof displacement histories under BSE-2E level ground motion number 11 from different models (Model 1a, Model 1c, and Model 1d).

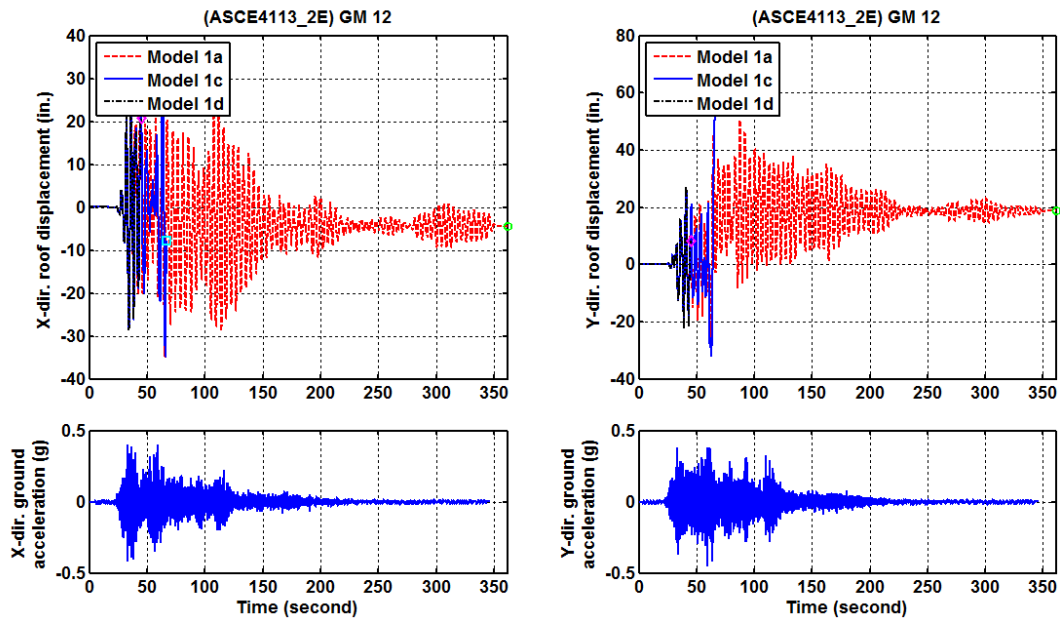


Figure G.88 Roof displacement histories under BSE-2E level ground motion number 12 from different models (Model 1a, Model 1c, and Model 1d).

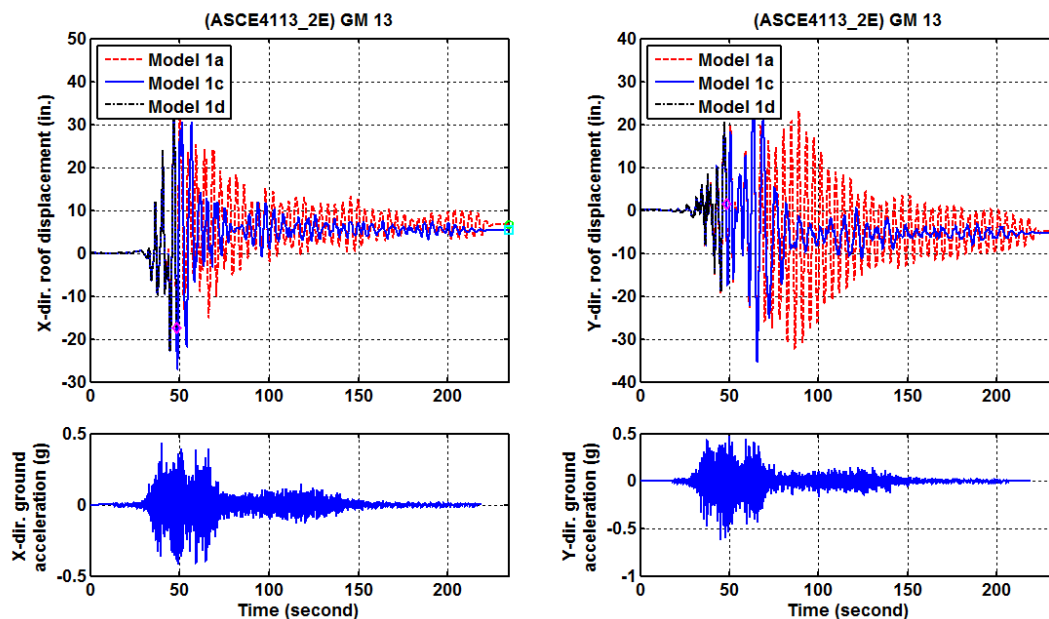


Figure G.89 Roof displacement histories under BSE-2E level ground motion number 13 from different models (Model 1a, Model 1c, and Model 1d).

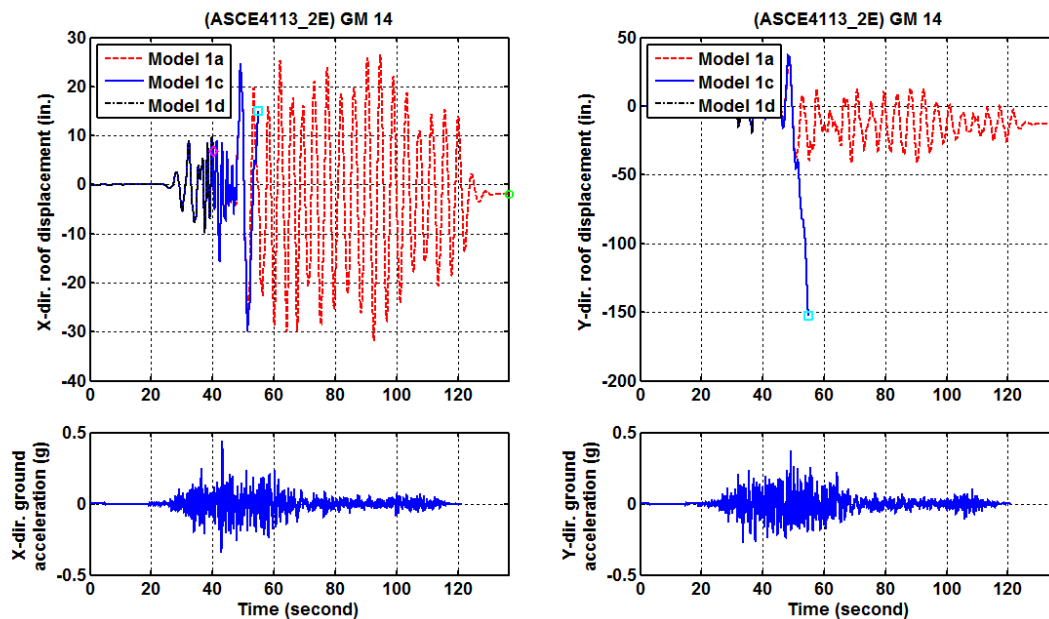


Figure G.90 Roof displacement histories under BSE-2E level ground motion number 14 from different models (Model 1a, Model 1c, and Model 1d).

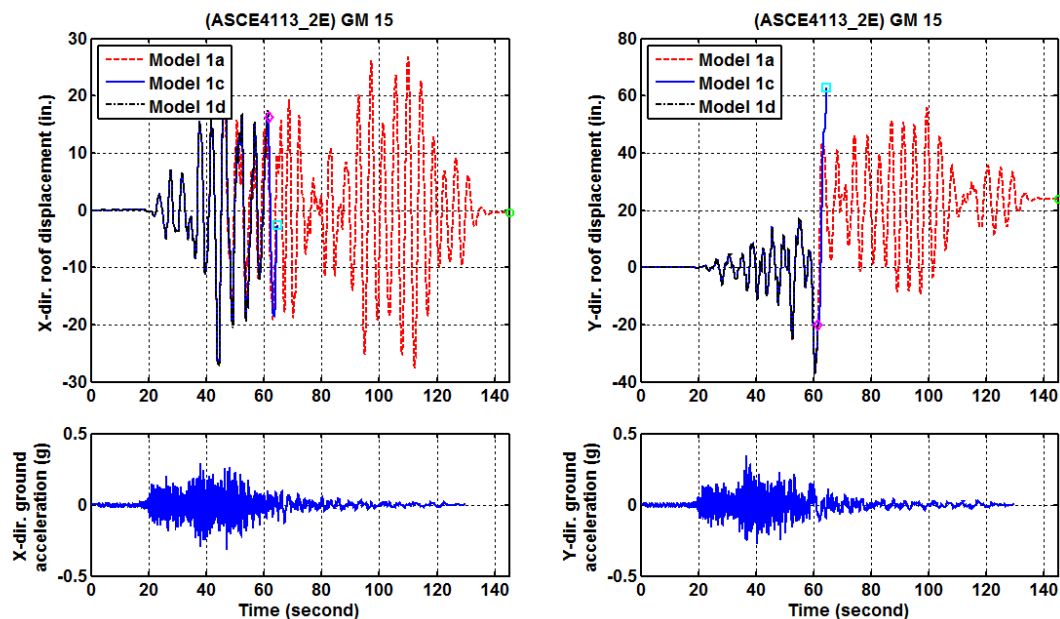


Figure G.91 Roof displacement histories under BSE-2E level ground motion number 15 from different models (Model 1a, Model 1c, and Model 1d).

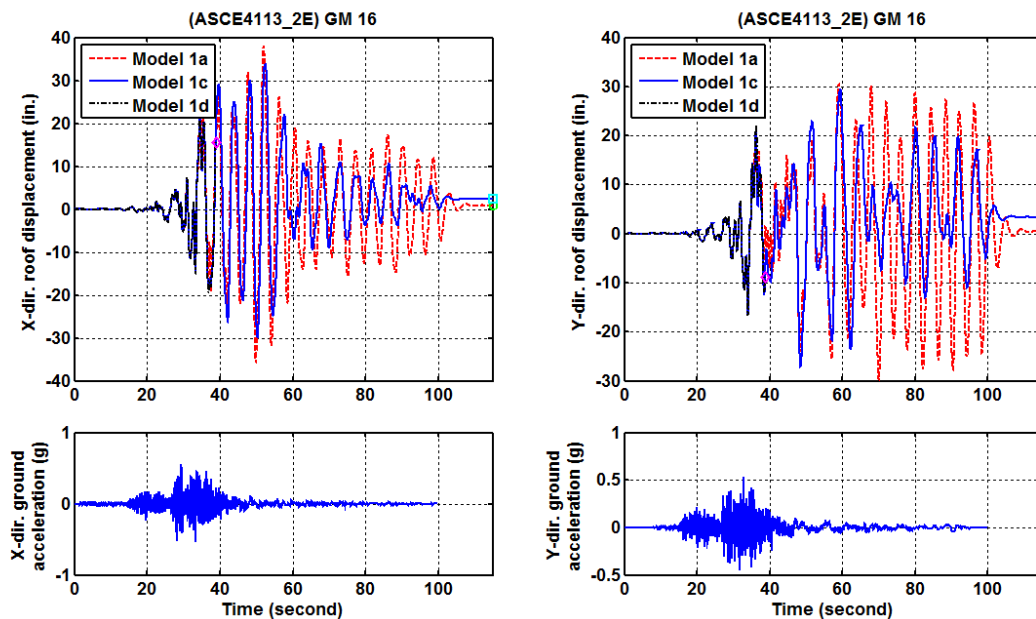


Figure G.92 Roof displacement histories under BSE-2E level ground motion number 16 from different models (Model 1a, Model 1c, and Model 1d).

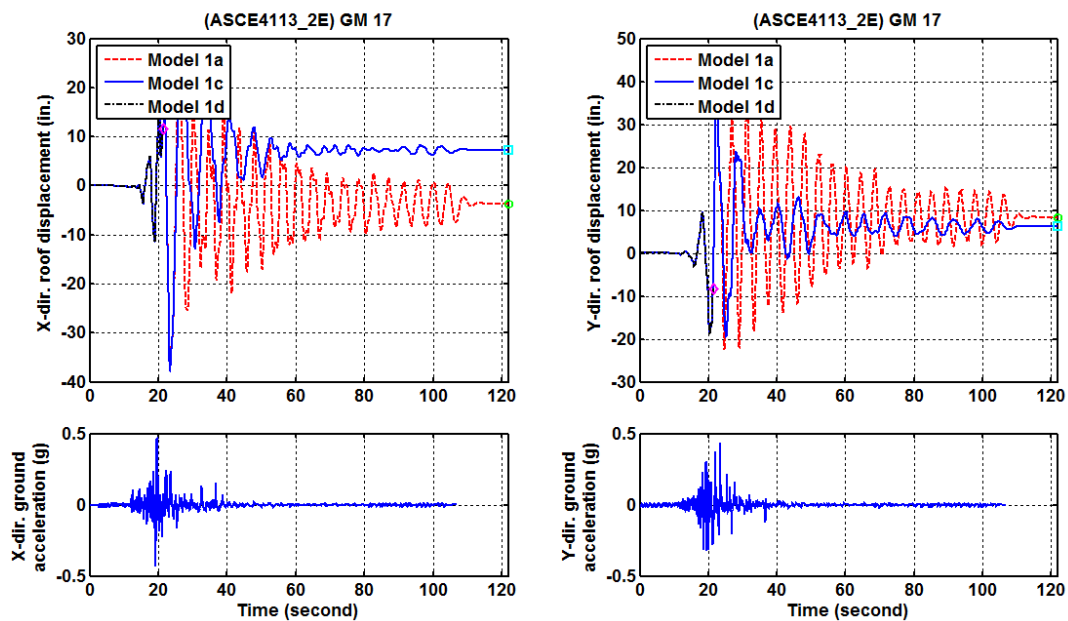


Figure G.93 Roof displacement histories under BSE-2E level ground motion number 17 from different models (Model 1a, Model 1c, and Model 1d).

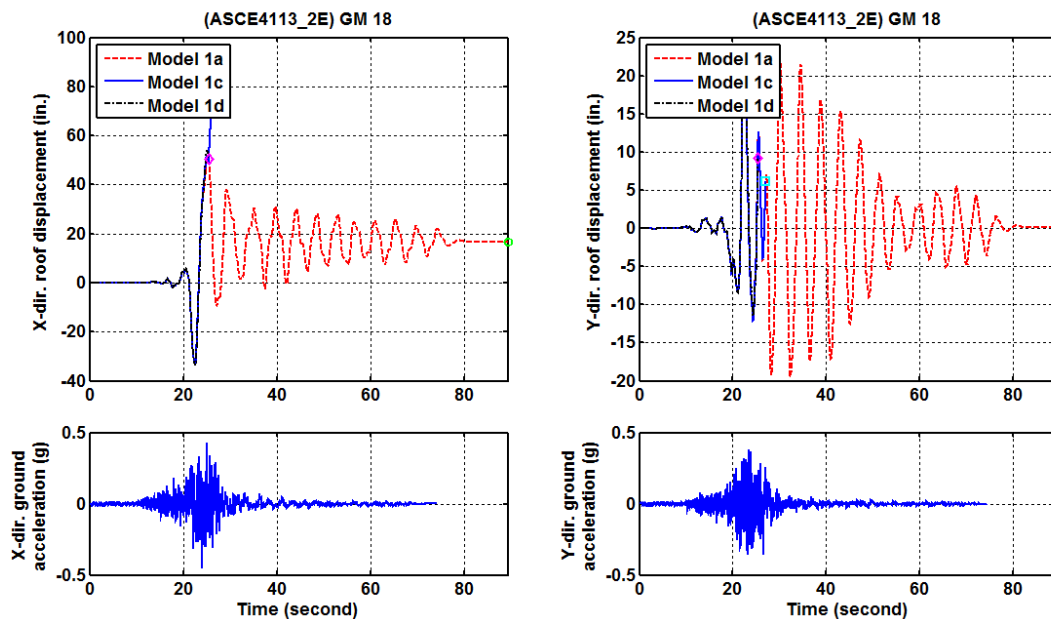


Figure G.94 Roof displacement histories under BSE-2E level ground motion number 18 from different models (Model 1a, Model 1c, and Model 1d).

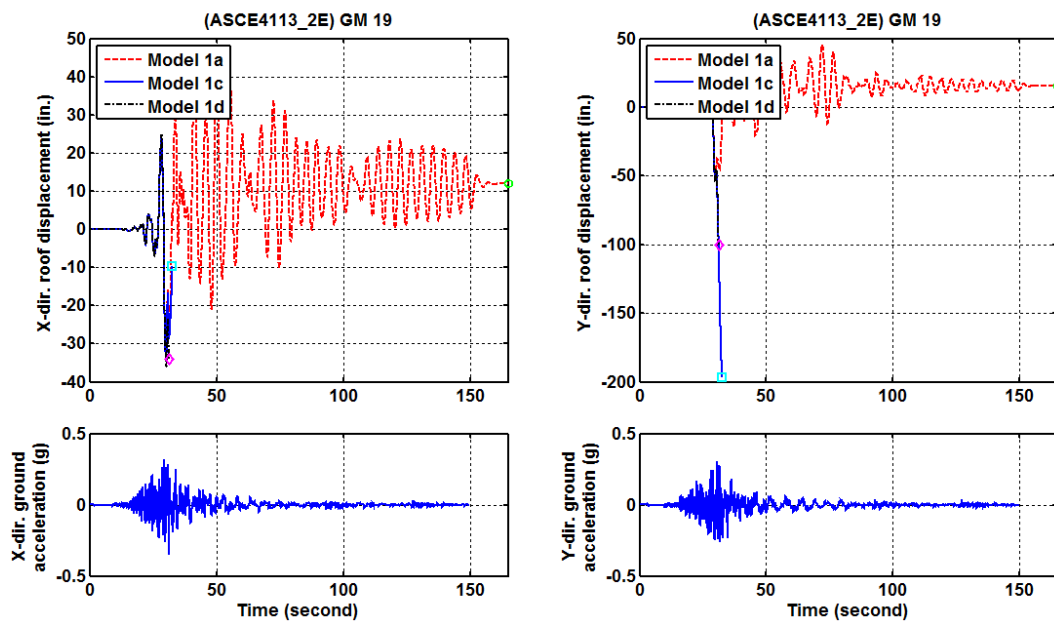


Figure G.95 Roof displacement histories under BSE-2E level ground motion number 19 from different models (Model 1a, Model 1c, and Model 1d).

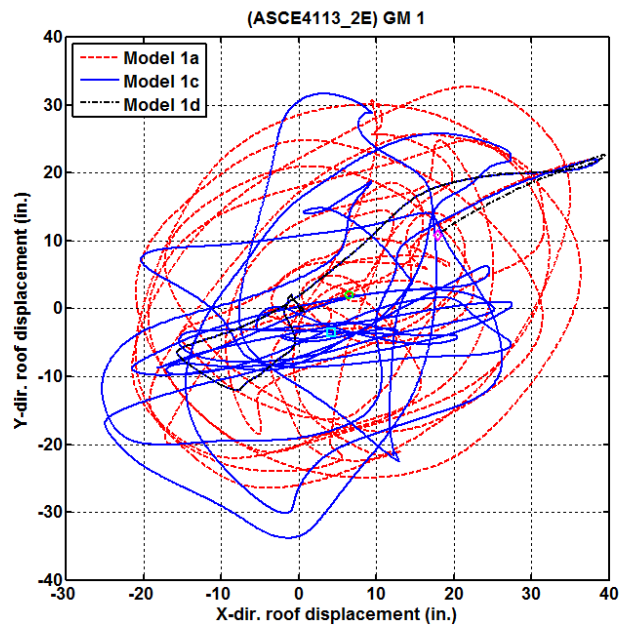


Figure G.96 Roof displacement orbits under BSE-2E level ground motion number 1 from different models (Model 1a, Model 1c, and Model 1d).

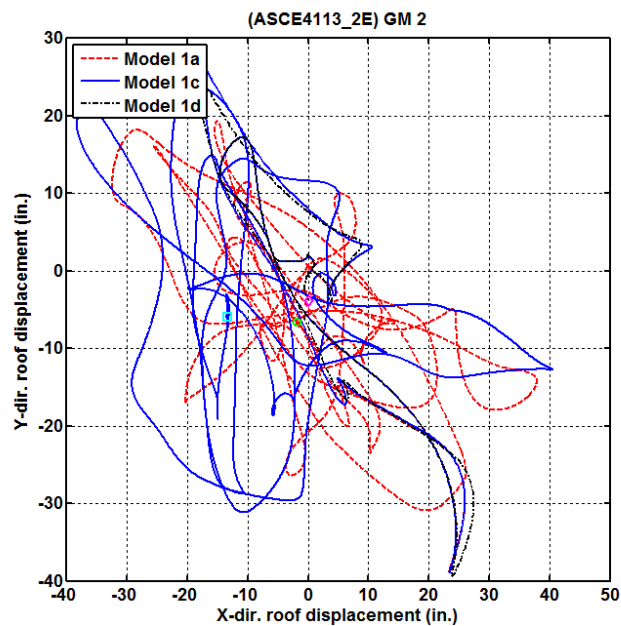


Figure G.97 Roof displacement orbits under BSE-2E level ground motion number 2 from different models (Model 1a, Model 1c, and Model 1d).

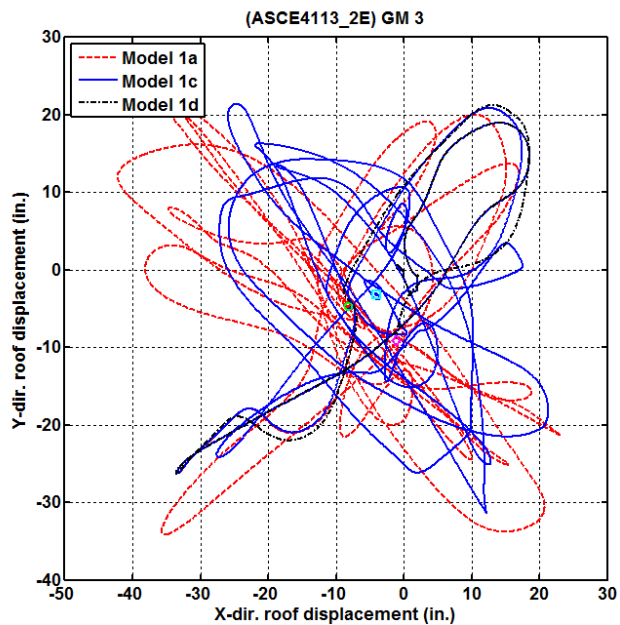


Figure G.98 Roof displacement orbits under BSE-2E level ground motion number 3 from different models (Model 1a, Model 1c, and Model 1d)

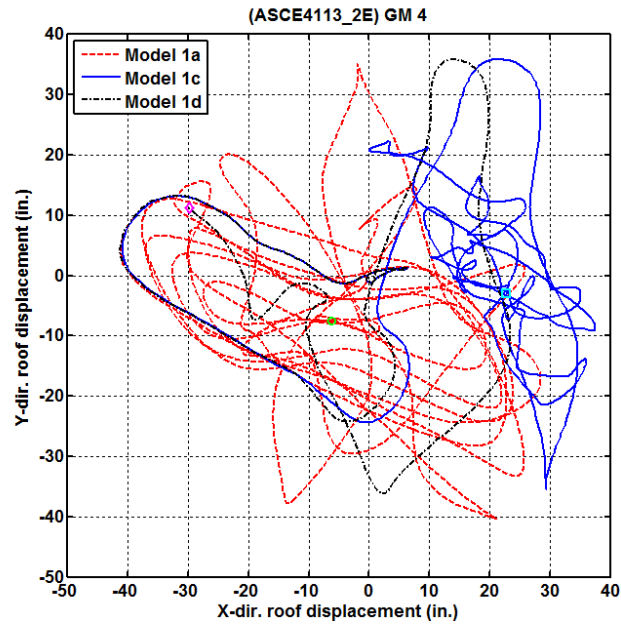


Figure G.99 Roof displacement orbits under BSE-2E level ground motion number 4 from different models (Model 1a, Model 1c, and Model 1d).

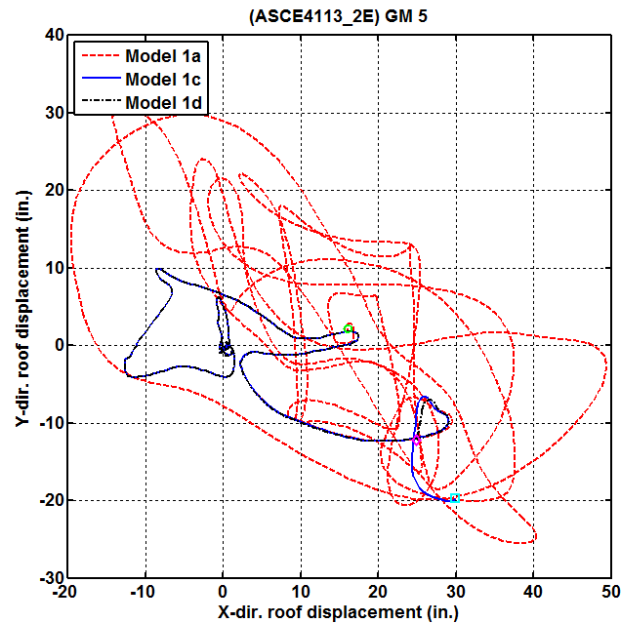


Figure G.100 Roof displacement orbits under BSE-2E level ground motion number 5 from different models (Model 1a, Model 1c, and Model 1d).

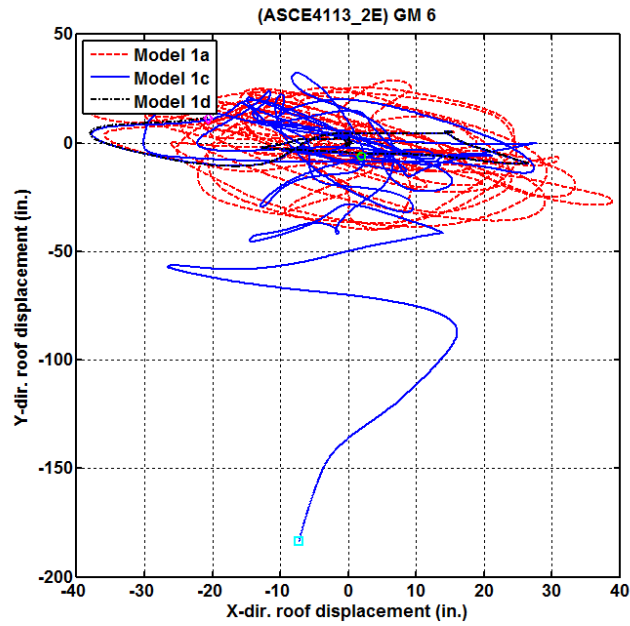


Figure G.101 Roof displacement orbits under BSE-2E level ground motion number 6 from different models (Model 1a, Model 1c, and Model 1d).

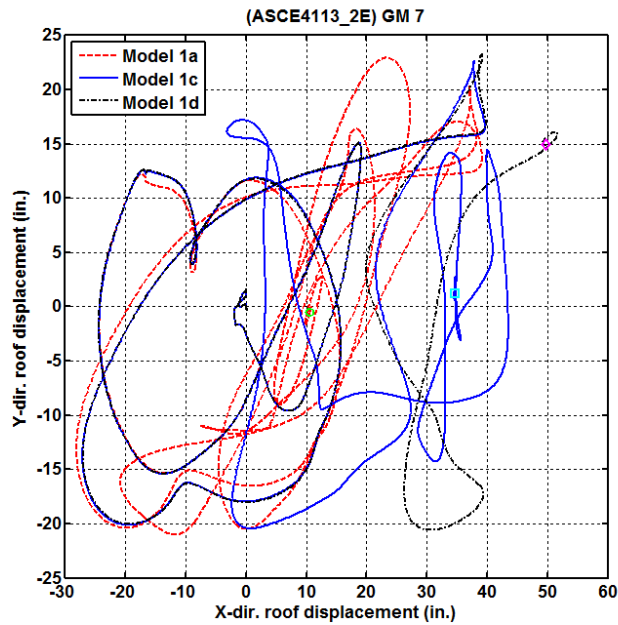


Figure G.102 Roof displacement orbits under BSE-2E level ground motion number 7 from different models (Model 1a, Model 1c, and Model 1d).

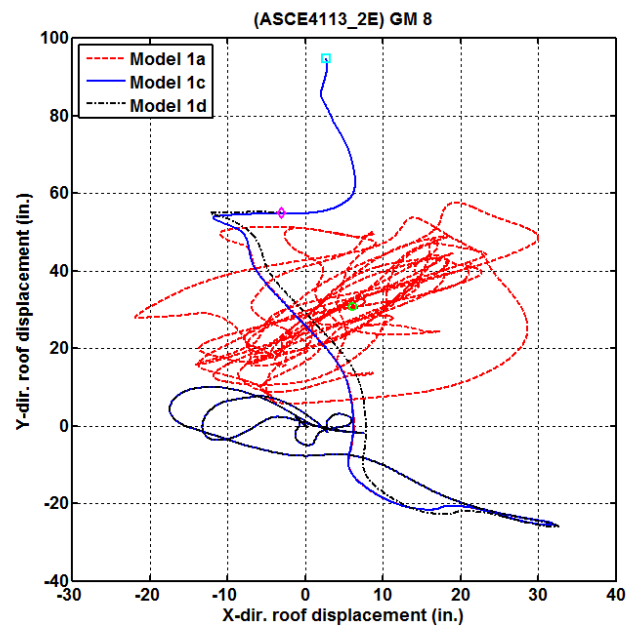


Figure G.103 Roof displacement orbits under BSE-2E level ground motion number 8 from different models (Model 1a, Model 1c, and Model 1d).

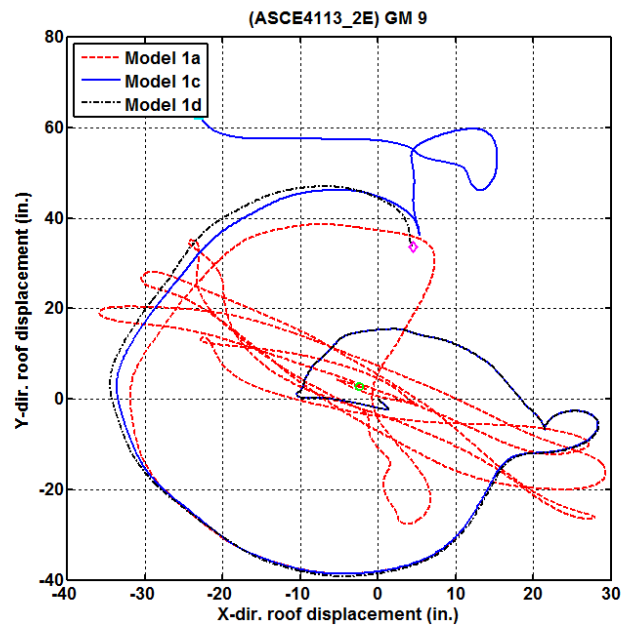


Figure G.104 Roof displacement orbits under BSE-2E level ground motion number 9 from different models (Model 1a, Model 1c, and Model 1d).

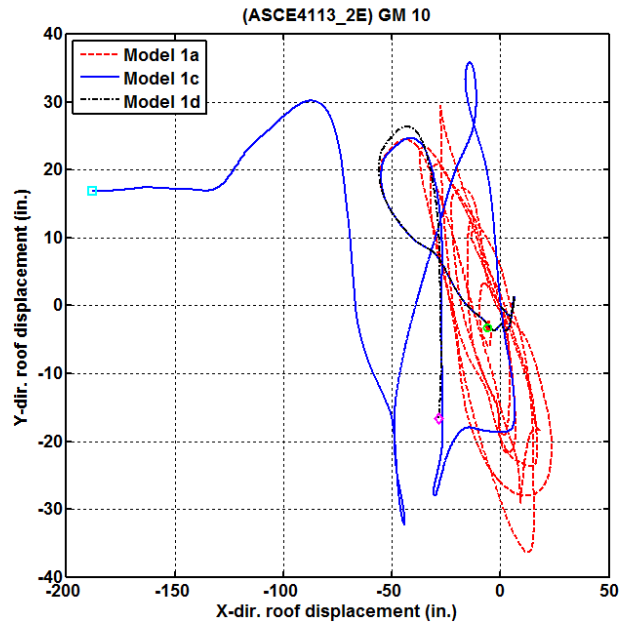


Figure G.105 Roof displacement orbits under BSE-2E level ground motion number 10 from different models (Model 1a, Model 1c, and Model 1d).

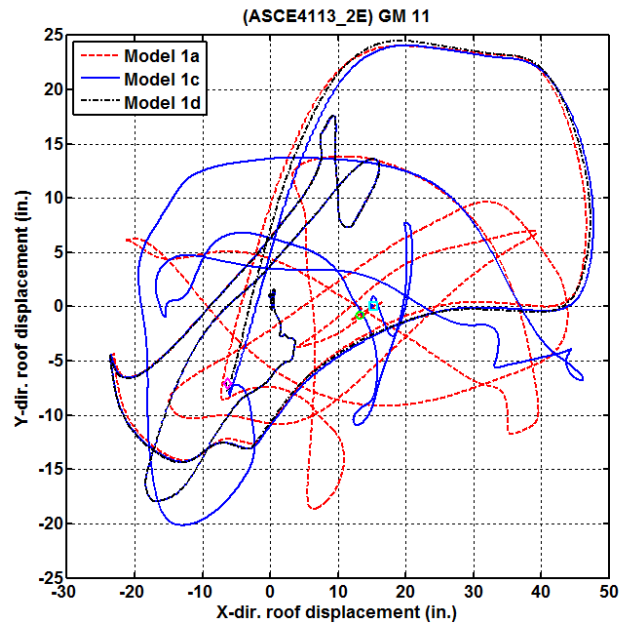


Figure G.106 Roof displacement orbits under BSE-2E level ground motion number 11 from different models (Model 1a, Model 1c, and Model 1d).

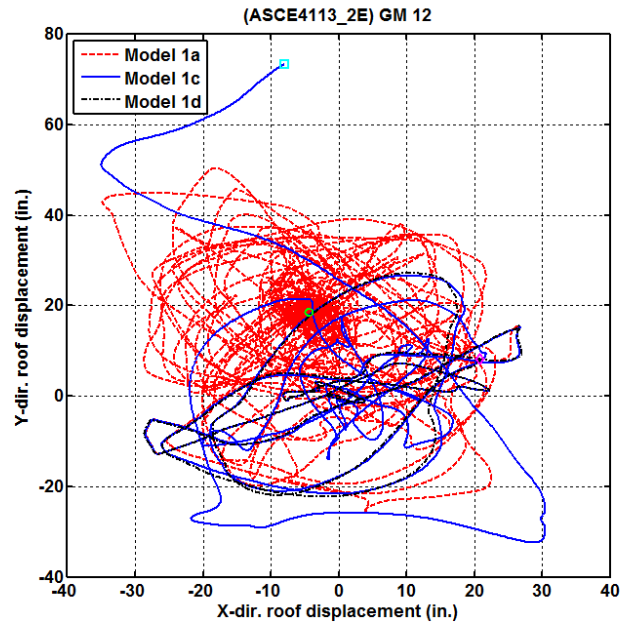


Figure G.107 Roof displacement orbits under BSE-2E level ground motion number 12 from different models (Model 1a, Model 1c, and Model 1d).

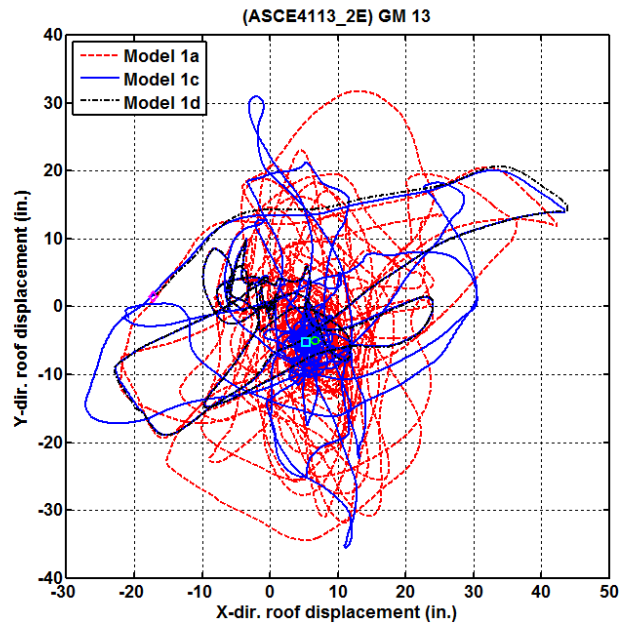


Figure G.108 Roof displacement orbits under BSE-2E level ground motion number 13 from different models (Model 1a, Model 1c, and Model 1d).

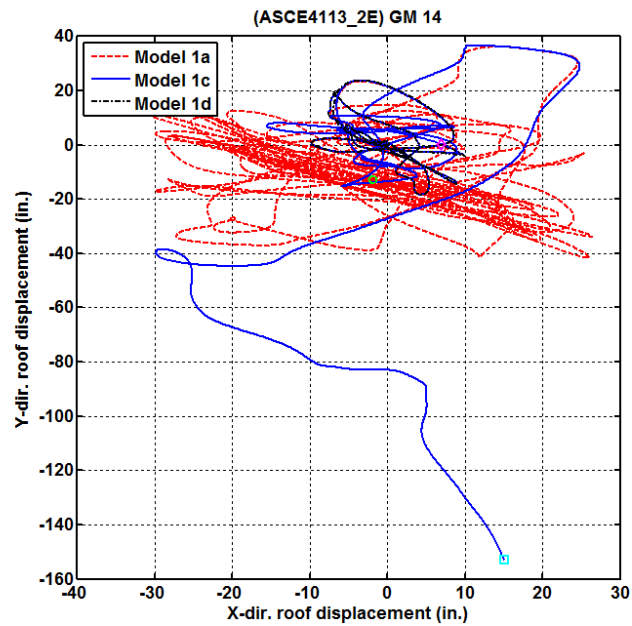


Figure G.109 Roof displacement orbits under BSE-2E level ground motion number 14 from different models (Model 1a, Model 1c, and Model 1d).

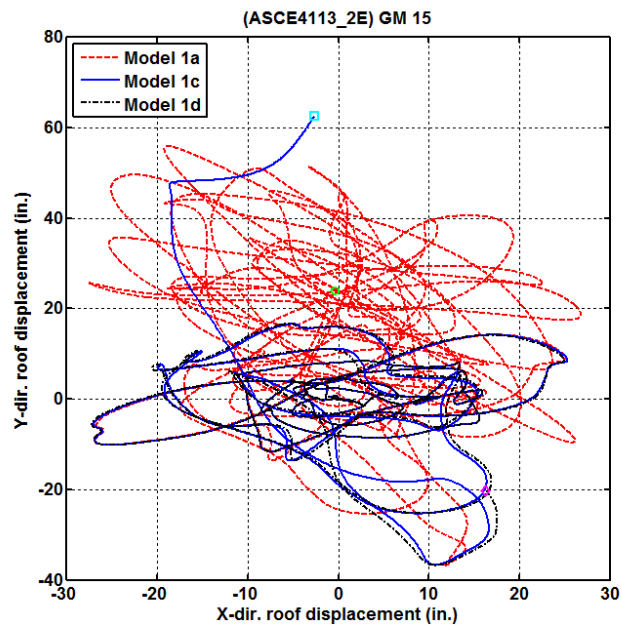


Figure G.110 Roof displacement orbits under BSE-2E level ground motion number 15 from different models (Model 1a, Model 1c, and Model 1d).

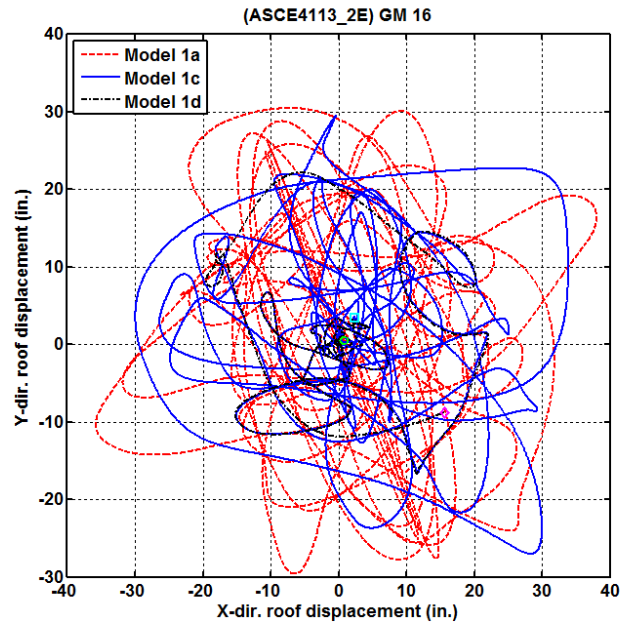


Figure G.111 Roof displacement orbits under BSE-2E level ground motion number 16 from different models (Model 1a, Model 1c, and Model 1d).

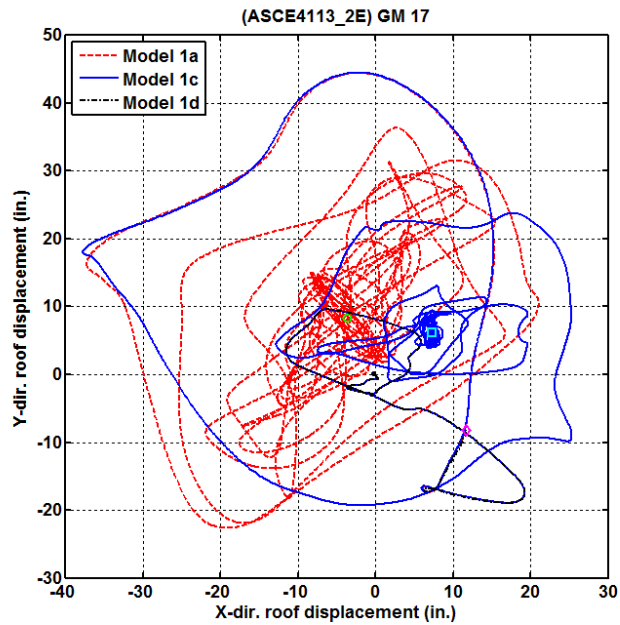


Figure G.112 Roof displacement orbits under BSE-2E level ground motion number 17 from different models (Model 1a, Model 1c, and Model 1d).

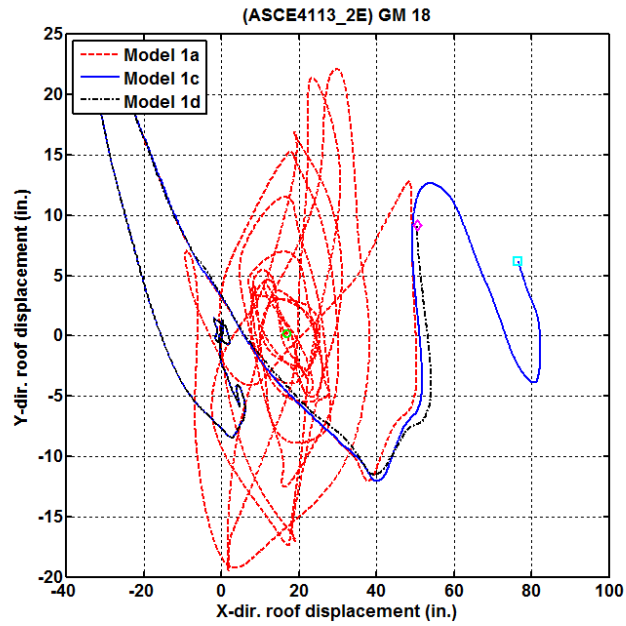


Figure G.113 Roof displacement orbits under BSE-2E level ground motion number 18 from different models (Model 1a, Model 1c, and Model 1d).

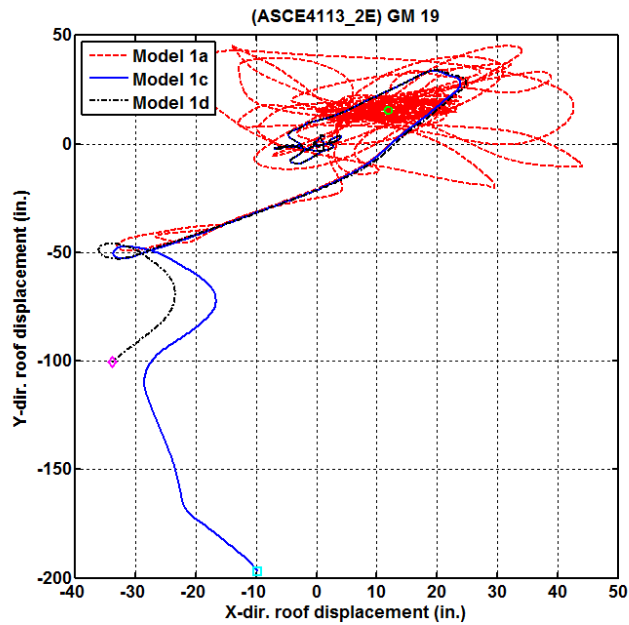


Figure G.114 Roof displacement orbits under BSE-2E level ground motion number 19 from different models (Model 1a, Model 1c, and Model 1d).