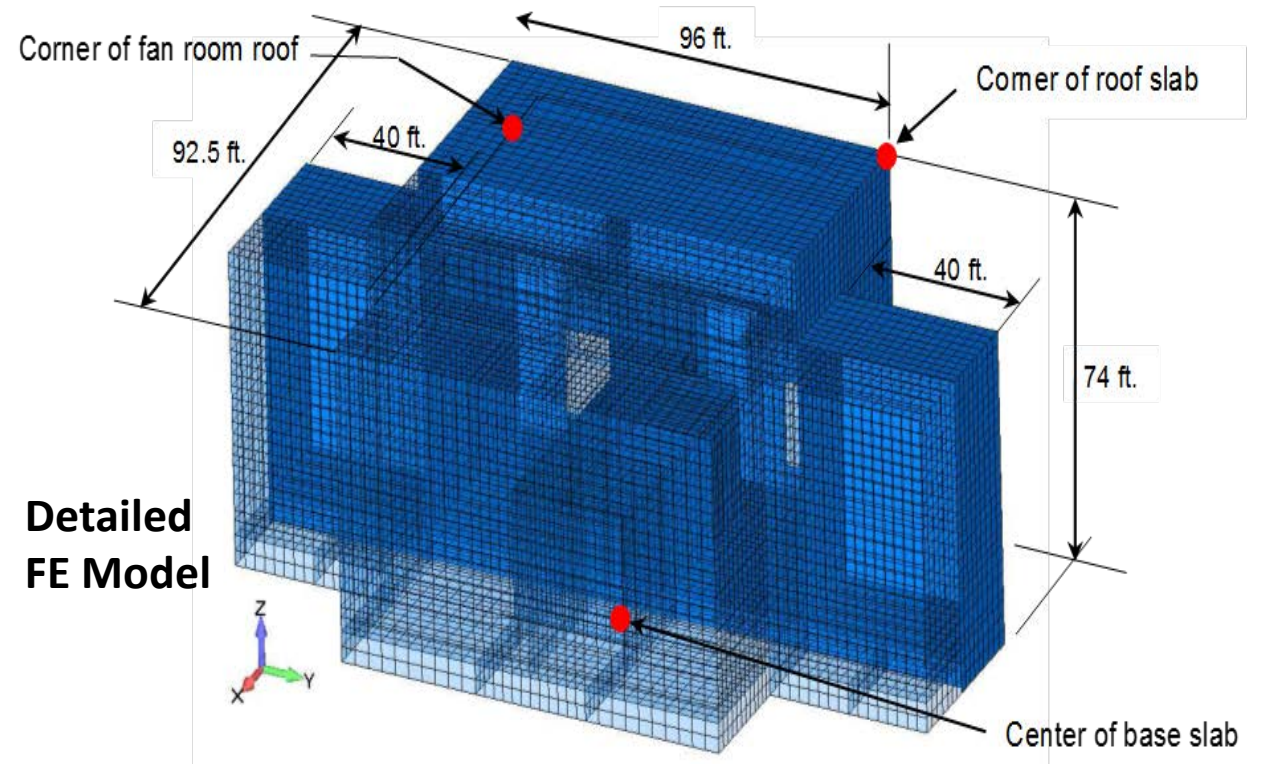
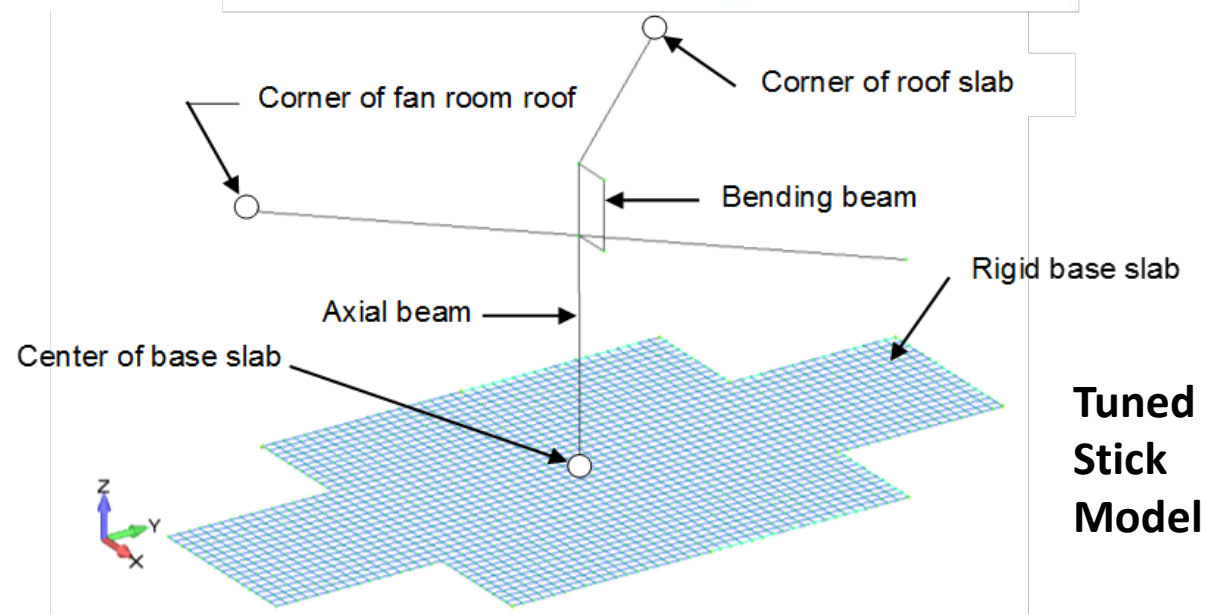


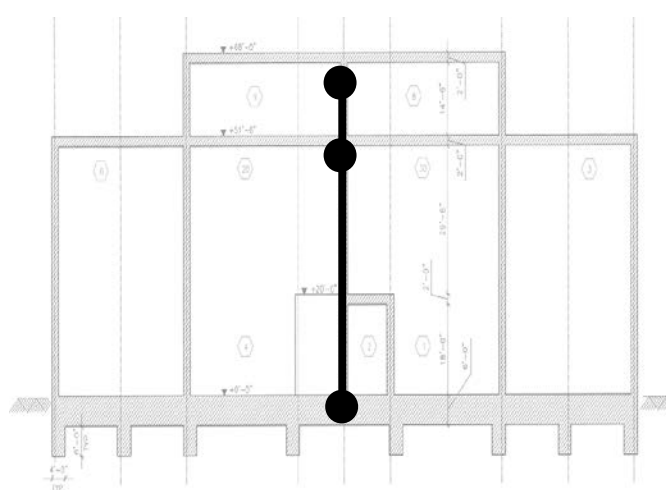
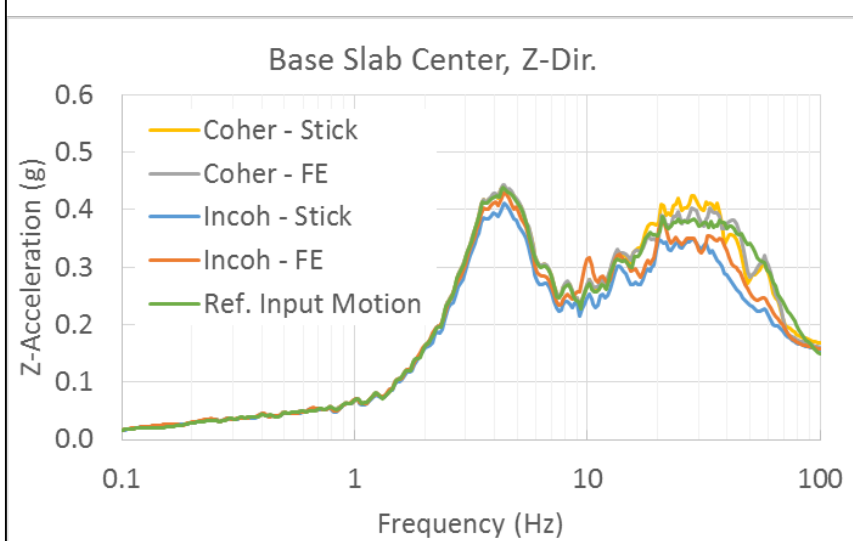
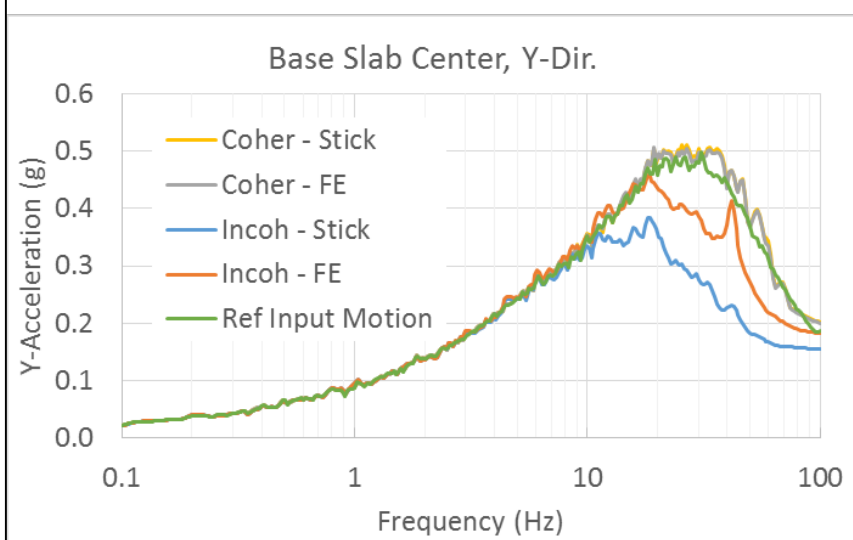
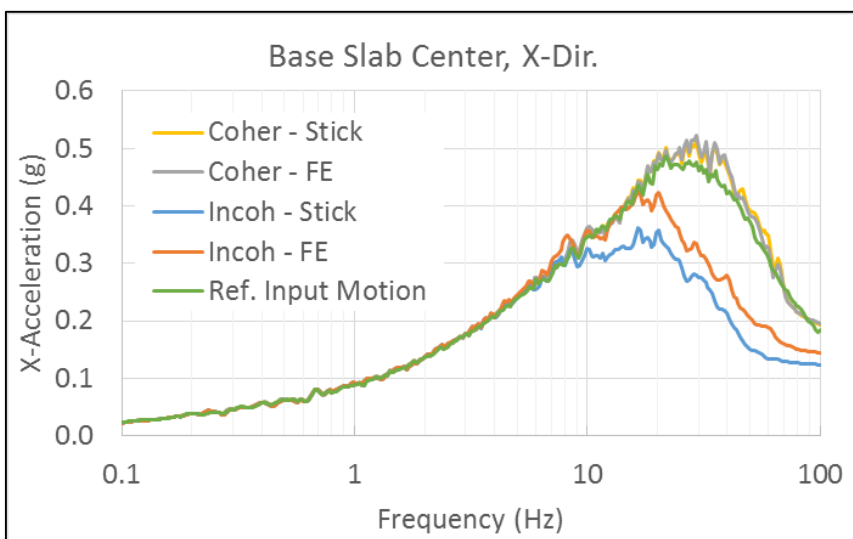
# Effects of Seismic Wave Incoherence on Nuclear Building Response



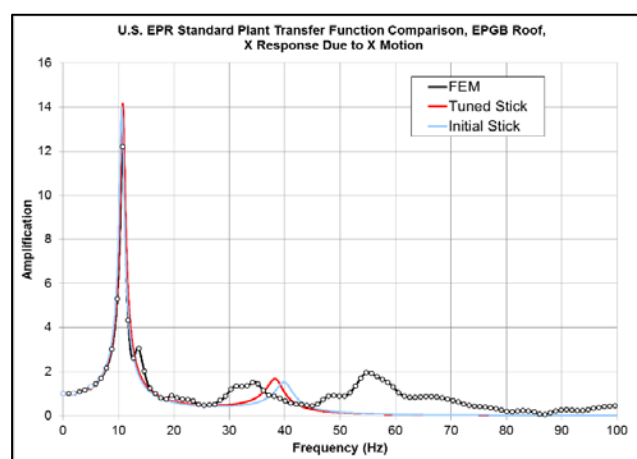
**Detailed  
FE Model**



**Tuned  
Stick  
Model**



**Detailed vs Tuned Stick Model**



Spatial incoherence of seismic waves has the effect of lowering responses of structural foundations. MTR/SASSI was used to analyze the seismic SSI response of a nuclear building—a surface-founded concrete structure—for a hard-rock soil case using both coherent and incoherent ground motion input. A detailed FE model of the building, and a corresponding tuned stick model on the rigid foundation were used. The results were compared against each other to evaluate the effects of ground motion incoherency on the in-structure response spectra and to study effects of model refinement (stick versus detailed FE model) on the calculated responses.