

Mech 417/517 Last (#13) Homework Assigned 4/9/2019 due 4/19/2019 5pm Dropbox

Groups encouraged.

Use SolidWorks, or any other commercial FEA software, to create a square plate 10 x 10 x 0.01 m made of steel. Use a shell mesh and support one edge to form a square deep cantilever. Compute the first seven mode shapes (including the out of plane ones).

Provide an image of each of those mode shapes.

Mech 517 In addition to the above calculations you have an extra problem. After the above calculations are complete, add the additional restraint of zero displacements perpendicular to the square face. Compute the first seven modes for that in-plane vibration. Provide an image of each of those mode planar shapes.

(They should be similar to the example in the lecture notes below.)

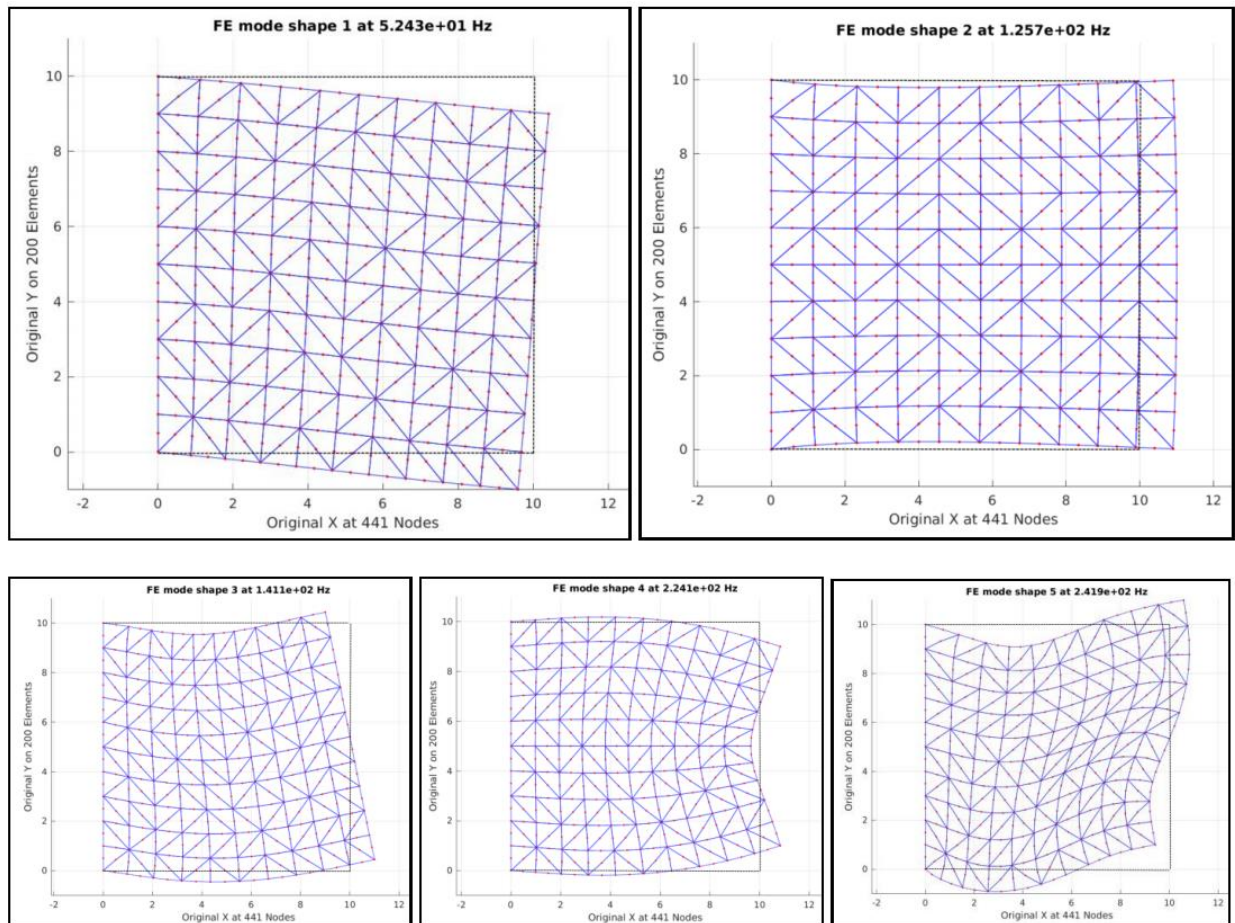


Figure 14.11-5 First five modes of a planar deep cantilever vibration validation problem