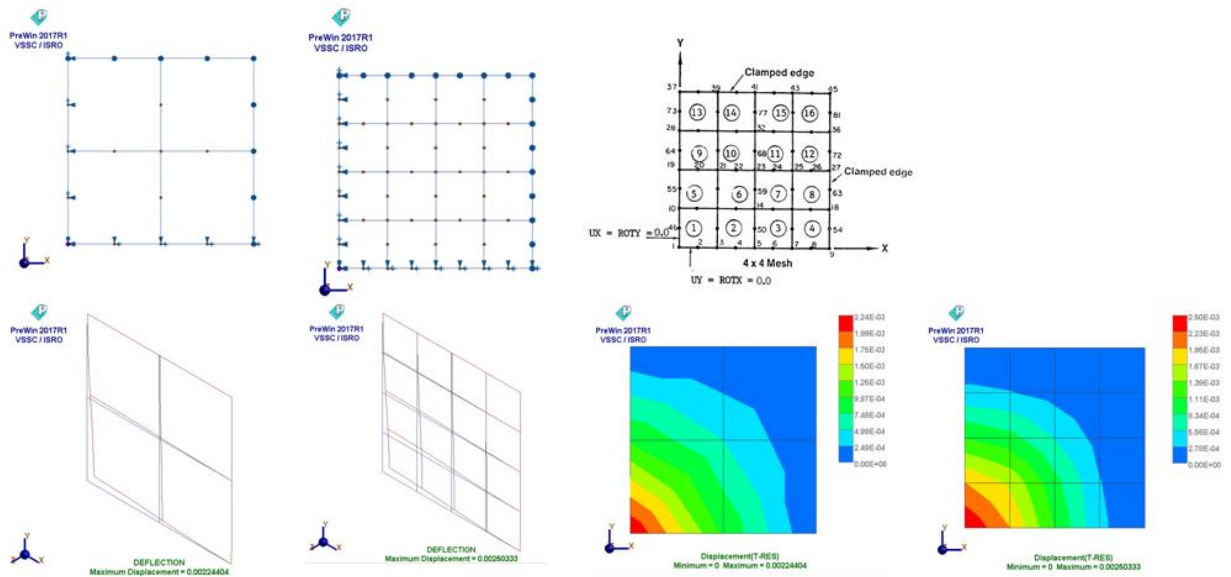


## Static analysis of clamped square plate with central concentrated load



- Material property** :  $E=9.1 \times 10^6 \text{ psi}$ ,  $\nu = 0.3$   
 3-D general shell element, square plate has a side length of 8 inches and thickness of 0.12 inch is subjected to a central concentrated load of 10 lbs, Clamped boundary conditions at  $X = 4.0 \text{ in}$  and  $Y = 4.0 \text{ in}$
- Element type** : are imposed by setting all displacements and rotations to zero. Symmetric boundary conditions on  $Y = 0.0$  are imposed by  $U_Y = 0.0$  and  $ROT_X = 0.0$  and along  $X = 0.0$  by setting  $U_X$  and  $ROT_Y = 0.0$ .
- Finite element statistics** :
- |                 |                    |                    |
|-----------------|--------------------|--------------------|
| Number of nodes | Number of elements | Degrees of freedom |
| 65              | 16                 | 256                |

| Output parameters                      | Theoretical value | FEAST <sup>SMT</sup> | NISA2 <sup>®</sup> |
|--|-------------------|----------------------|--------------------|
| Vertical deflection along X-axis(inch) |                   |                      |                    |
| 4X4 mesh                               | 0.00248           | 0.00250              | 0.00249            |
| 2X2 mesh                               | 0.00250           | 0.00220              | 0.00210            |