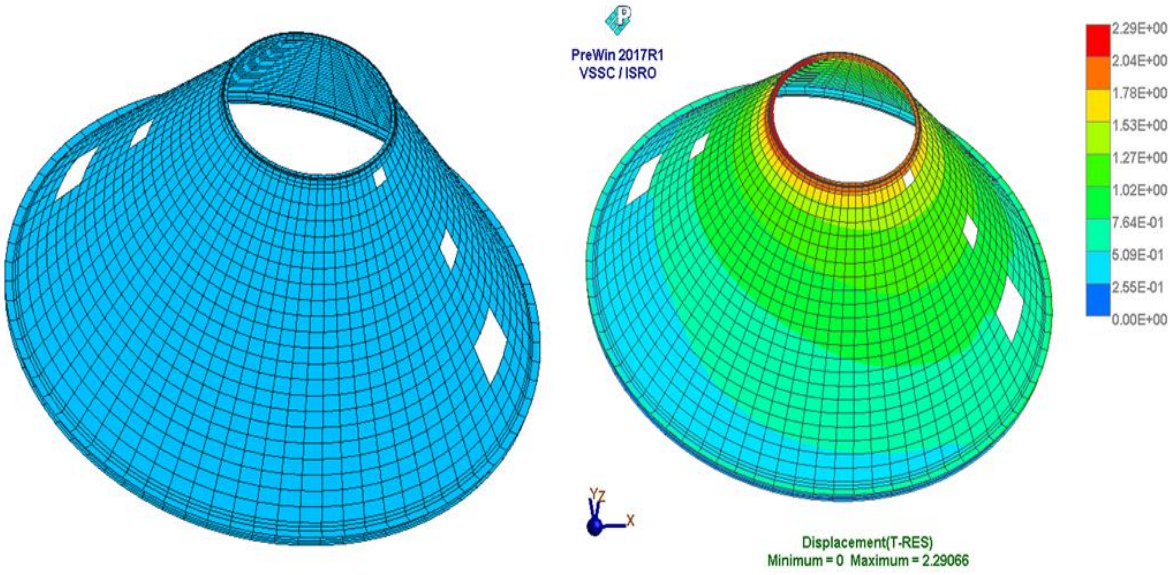
Static analysis of typical pay load adaptor of a launch vehicle



Composite structure

Material property :

Materials used

1. E_{11} = 27500 *MPa*, E_{22} = 1600 *MPa*, G_{12} = G_{13} = G_{23} = 355 *MPa*, ν = 0.155, Specific gravity = 1.7
2. E_{11} = 7000 *MPa*, E_{22} = 7000 *MPa*, G_{12} = G_{13} = G_{23} = 2900 *MPa*, ν = 0.3, Specific gravity = 2.7
3. E_{11} = 0.00021 *MPa*, E_{22} = 0.00021 *MPa*, G_{12} = G_{13} = G_{23} = 0.0009 *MPa*, ν = 0.3
4. E_{11} = 1E-5 *MPa*, E_{22} = 1E-5 *MPa*, G_{12} = $1x10^{-5}$ *MPa*, G_{13} = G_{23} = 39.3 *MPa*, ν = 0.155, Specific gravity = 1.7

Element types : Quadrilateral shell

Finite element statistics :

Number of elements	Number of nodes	Degrees of freedom
2278	2871	17004

Output parameter	**FEAST^{SMT}**	**NISA®**
Displacement, *mm*	2.29	2.45