

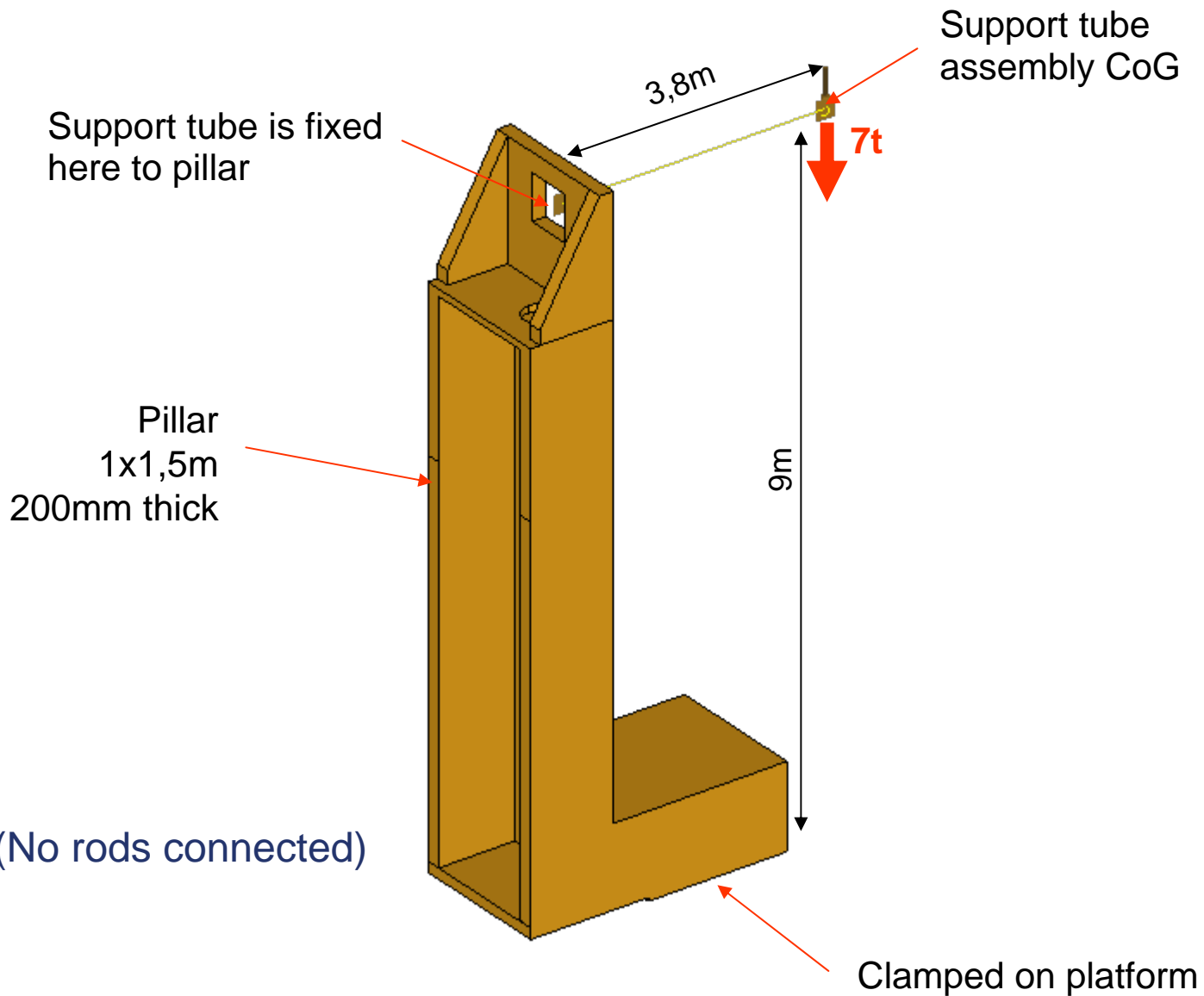


Quick calculation of the ILD Pillar

The goal is to evaluate roughly the mechanical behavior of the actual pillar design



Calculation inputs



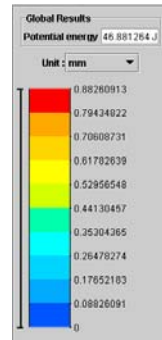
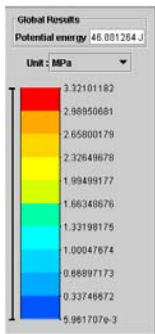
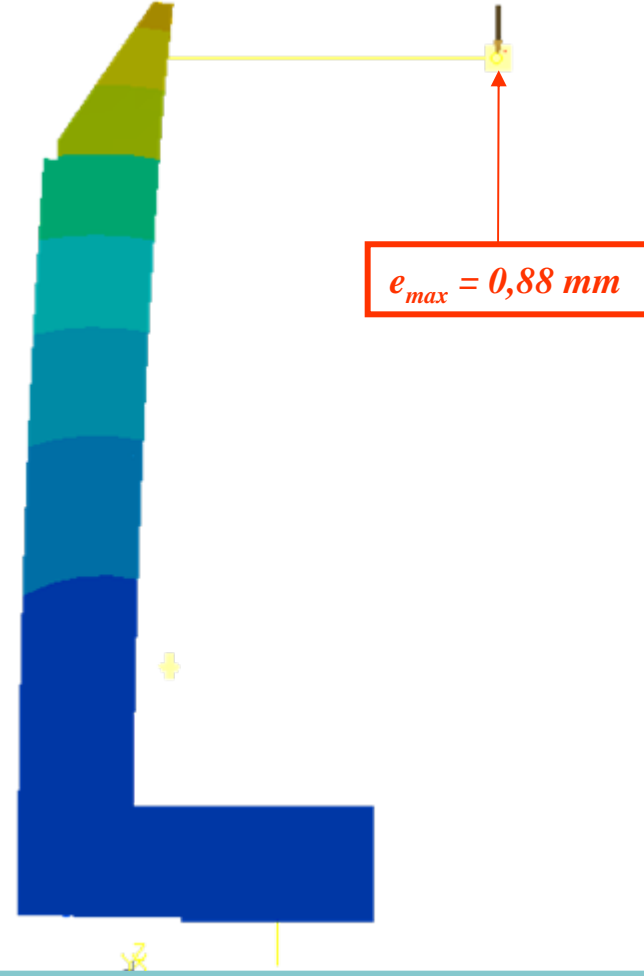
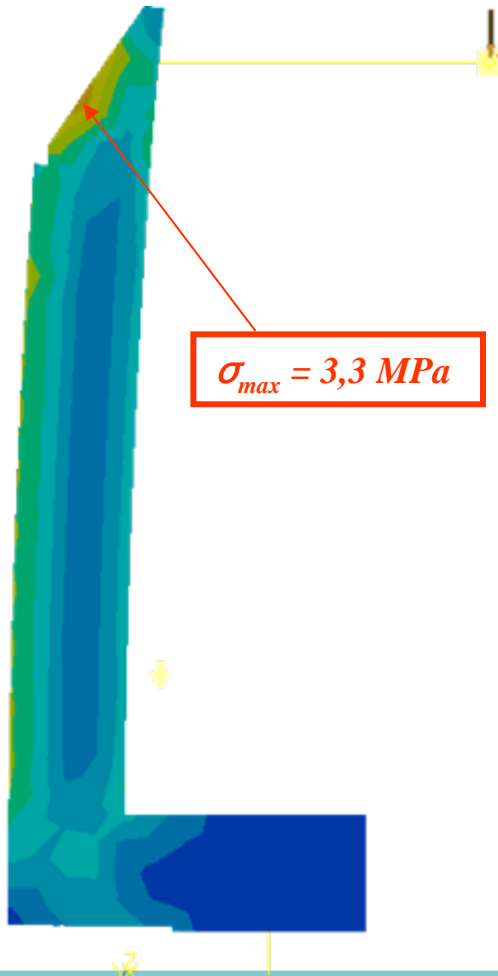
- Cantilever mode (No rods connected)
- Material : Steel ?
 - **E=200GPa**



Results

Stress

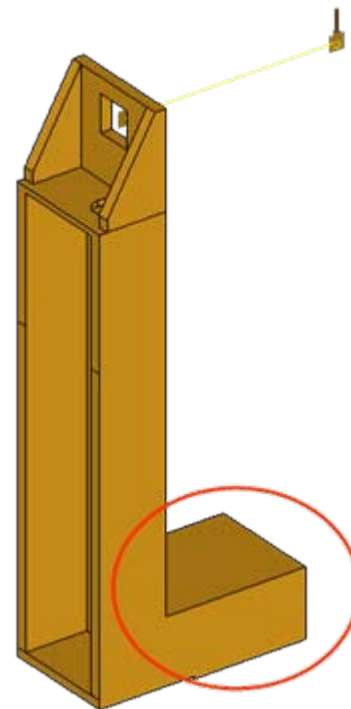
Nodal displacements





Conclusions

- We are lucky !
- The 1st design seems to work well
 - **Less than 1mm displacement for ST CoG**
 - **Maybe the bottom part could be optimised**



- Issues :
 - **Need detailed design of connection between tube and pillar**
 - Must be tunable for alignment to beam axis
 - Stiff enough
 - **Material of pillar?**
 - Possible to use Steel?
 - Influence on stray field..?
 - **Fixation on platform and movement in garage position**