

FEM ACTIVITIES

Model 1

- Model solved: main model with coarse mesh
- Sub-model for the cavity (fine mesh -> 2 elements per thickness)
- Sub-model for the most stressed weld seam

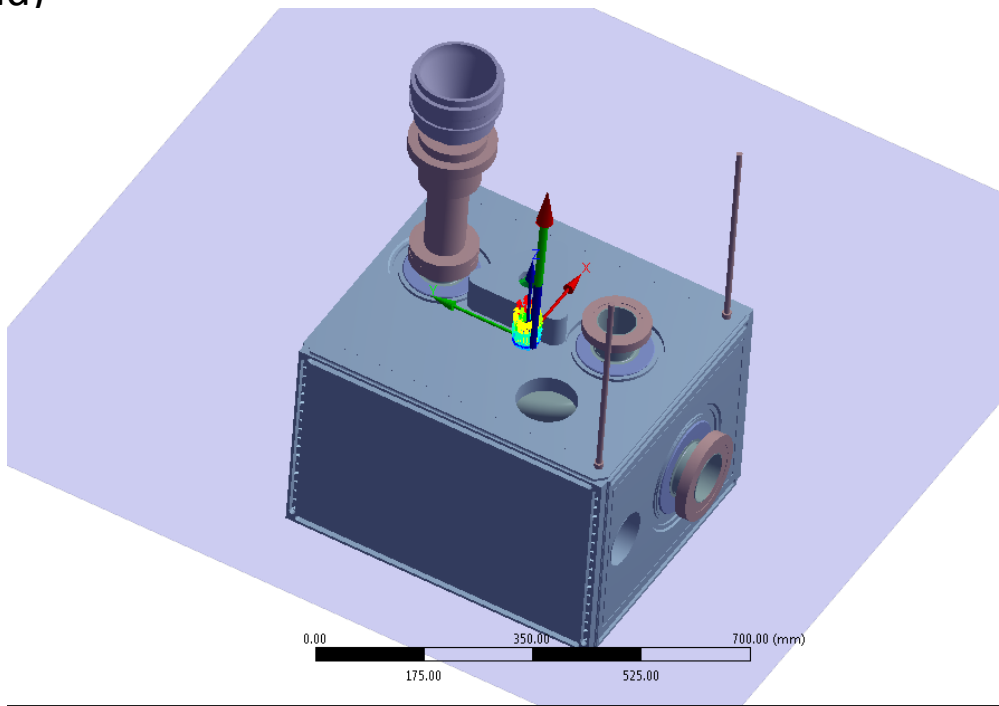
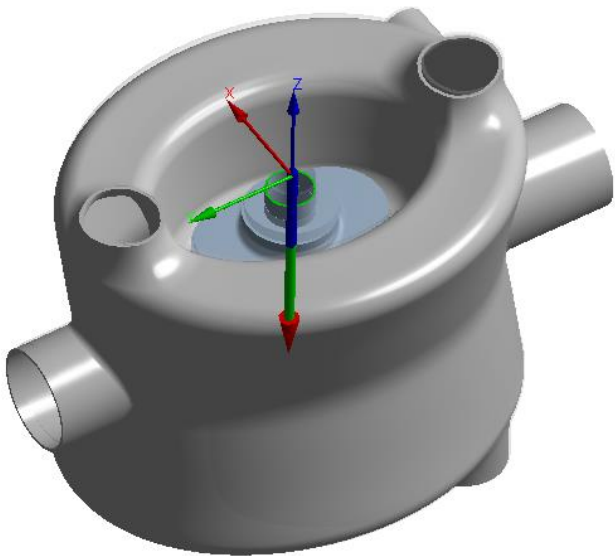
Model 2 (Kurt's model)

- to be compared with the main model
- Analysis ongoing

Model 1

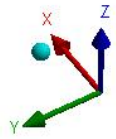
- Model solved: main model with coarse mesh
 - Sub-model for the cavity: **some doubts about the transferred load**
- > Test ongoing in order to understand the reason
- Sub-model for the most stressed weld seam: not ready

Doubts
(above all on the step with simple pressure load)



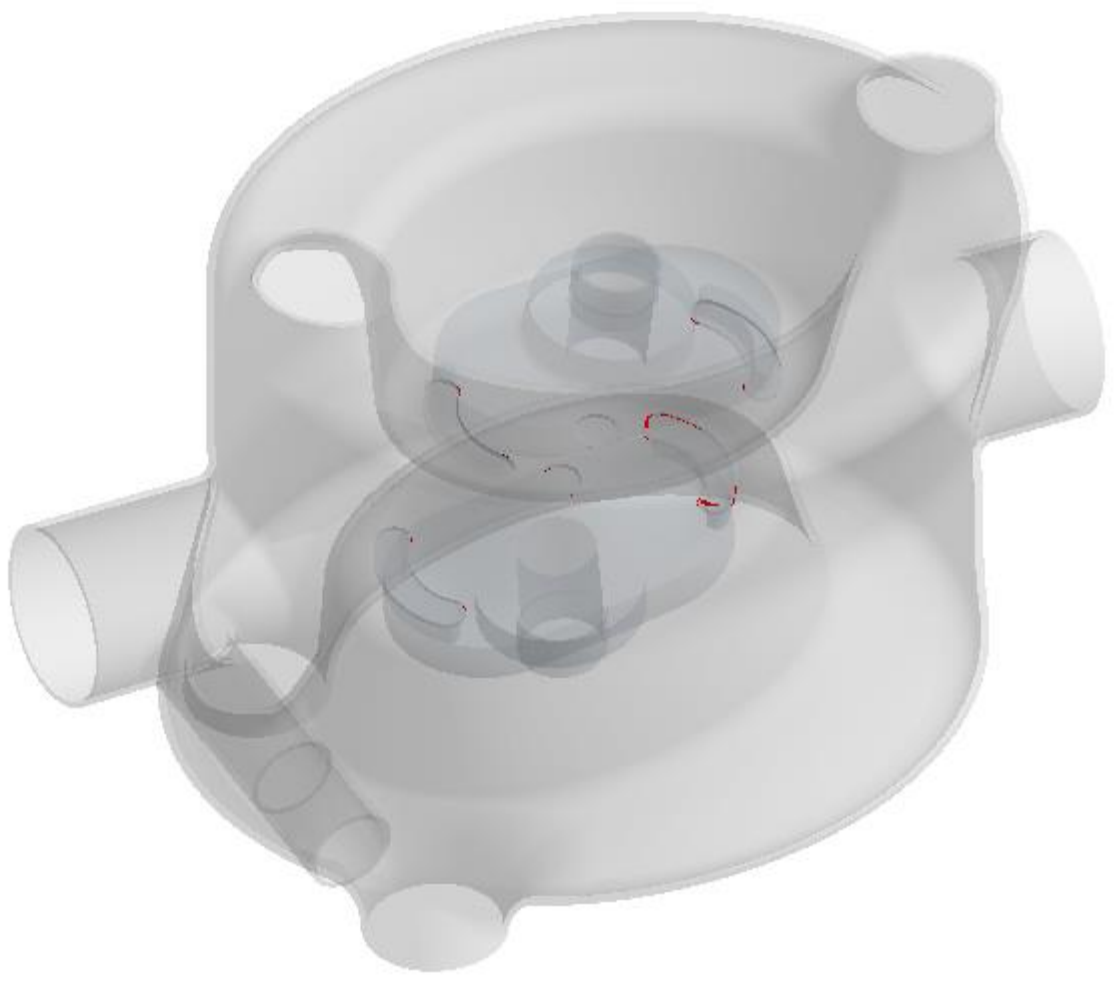
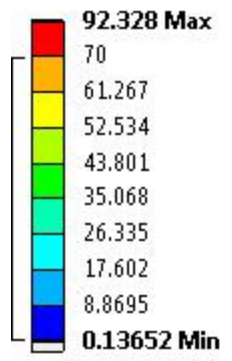
Preview

Tabular Data					
	Time [s]	Force Reaction Tube Top (X) [N]	Force Reaction Tube Top (Y) [N]	Force Reaction Tube Top (Z) [N]	Force Reaction Tube Top (Total) [N]
1	1.	0.60139	7.6834	-97.646	97.95
2	2.	11.329	-33.975	-2596.9	2597.1
3	3.	10.631	-50.54	3532.6	3533.



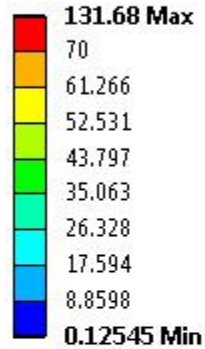
Tabular Data					
	Time [s]	Force Reaction Tube Top (X) [N]	Force Reaction Tube Top (Y) [N]	Force Reaction Tube Top (Z) [N]	Force Reaction Tube Top (Total) [N]
1	1.	-0.37047	-14.26	136.66	137.4
2	2.	-10.704	56.099	4859.6	4860.
3	3.	-16.354	39.831	-3397.9	3398.2

B: Submodel Cavity
Stress Intensity cavity
Type: Stress Intensity
Unit: MPa
Time: 2
16/03/2015 09:04



Results: stress intensity on cavity -> step 2 / pressure + pretuning

B: Submodel Cavity
 Stress Intensity cavity
 Type: Stress Intensity
 Unit: MPa
 Time: 3
 16/03/2015 09:03



Force reaction on bolt for pre-tuning to be checked (2000 N? / detachment of cavity?)

Results: bolt loads

- Maximum shear load: 341 N
- Maximum axial load (with preload): 5480 N
- Maximum bending moment: 1770 N*mm

Slightly lower than loads considered in the Excel evaluation.

Assessment in accord to VDI not yet performed

QUESTION:

- Visit to Saclay (cryomodule assembly)?