ALPSIIc – End Vacuum tanks

Status – Collaboration meeting 08.06.2020





End vacuum tanks design



HELMHOLTZ SPITZENFORSCHUNG FÜR GROSSE HERAUSFORDERUNGEN

Bottom plate deformation



Thickness of the bottom plate = **30mm** to reduce bottom plate deformation during pum down (prediction = 3.5µm upward deformation and 0.4mrad)



SPITZENFORSCHUNG FÜR

GROSSE HERAUSFORDERUNGEN

HELMHOLTZ





Bottom plate deformation after pump down







CAE prediction: 3.5µm bottom plate upward displacement Actual measurements: less then ~ 5µm displacement



Lower plate bended due to welding (~140µm here)



Flattening of the bottom plate







Connection to vacuum string



- Need to decouple pumping vibration from vacuum
- Current idea is to support the vacuum pipe system with only 1 bracket outside, fixed to the end box
 - support Next step = install connection to vacuum string and pump down (using external pump) to check the potential vacuum tank movement with pumping down



