

MEC Meeting: Forward Endcap EMC

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PANDA Mechanics Meeting, GSI
December 14th, 2017

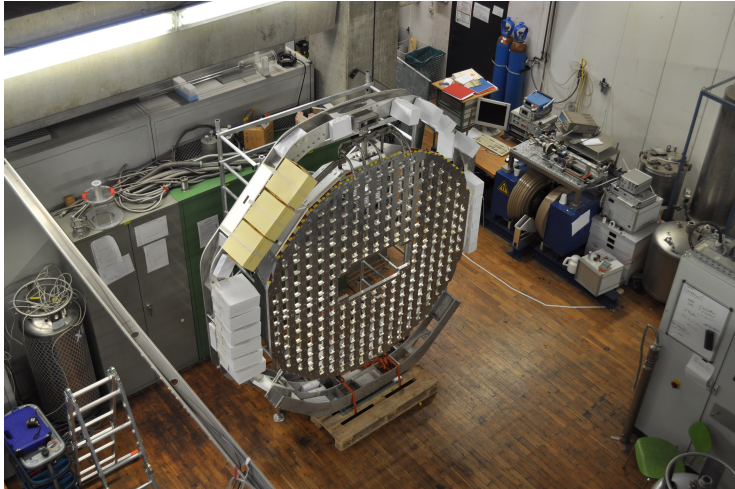
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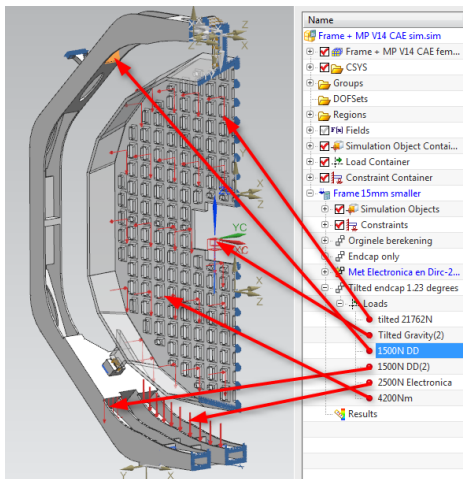
- Additional Drilling to Forward Endcap Support Frame
- Latest Loading-Simulations from KVI
- The Mounting Frame Base for Preassembly
- Manipulator-Arm for Submodule Mounting
- Cabling Clashes with Disk DIRC?

Additional Drilling to Support Frame



Threaded (holes) necessary to mount SADC crates, THMPs, light pulser units and Disk DIRC

PANDA Endcap Load case (v14)



All loads should be multiplied by 2 for the real “full” Endcap!

Weight of crystals

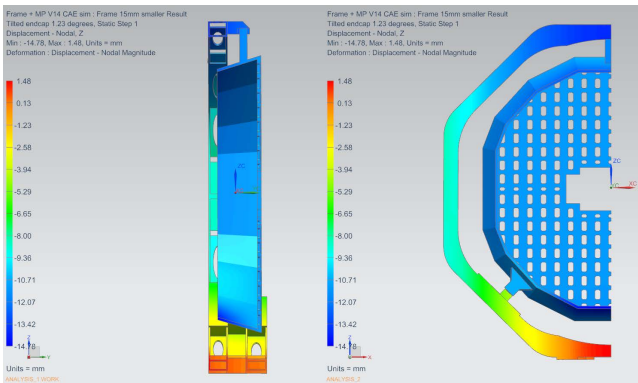
$\frac{1}{4}$ of the weight of the DiscDirc

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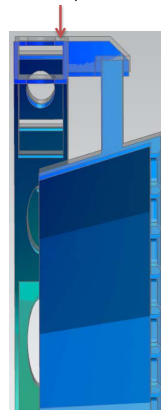
Electronics

Moment on back plate due to weight crystals

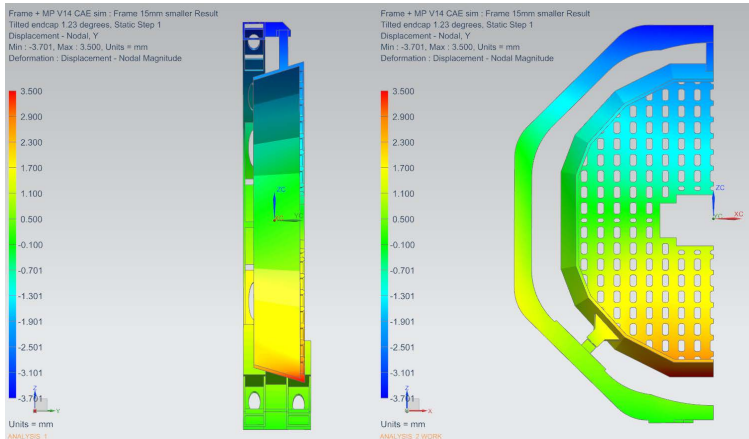
Displacement down ↓



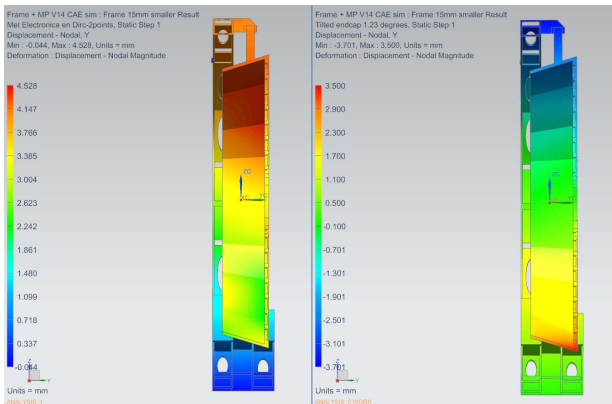
Original position
versus displaced



Displacement down / upstream



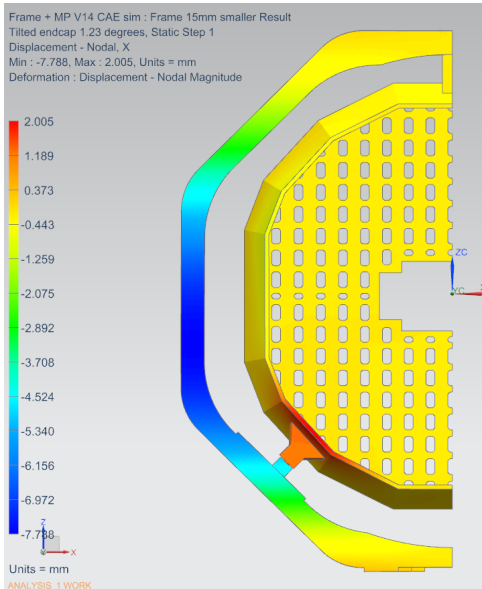
Displacement down / upstream due to tilted frame



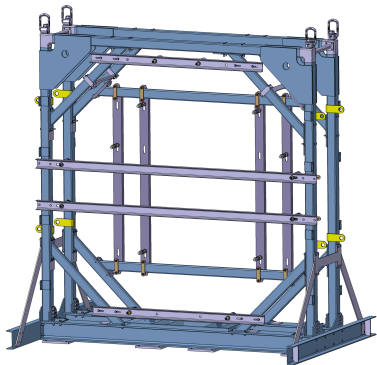
When the frame is standing straight up, the top part will move 4 mm downstream due to the weight of all the components.

In this situation the frame is tilted 1.23° upstream to move the COG 30 mm upstream. This results in a displacement of 3.7 mm upstream. The frame can be tilted by means of the adjustable feet. The exact needed tilt depends on the exact weight and position of all the components.

Loading Simulation

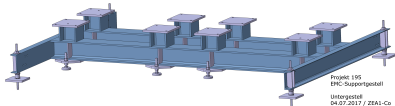


Mounting Frame Base

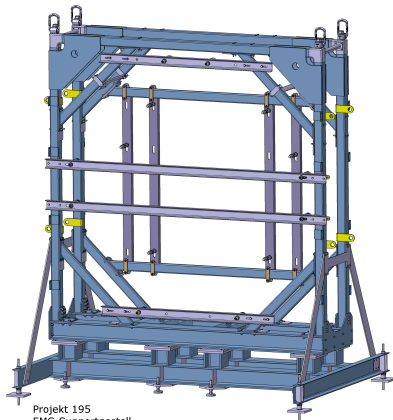


Projekt 195
EMC-Supportgestell

Supportgestell ohne Untergestell mit Verbindungsplatten und Fußstreben
04.07.2017 / ZEA1-Co



Projekt 195
EMC-Supportgestell
Untergestell
04.07.2017 / ZEA1-Co



Projekt 195
EMC-Supportgestell

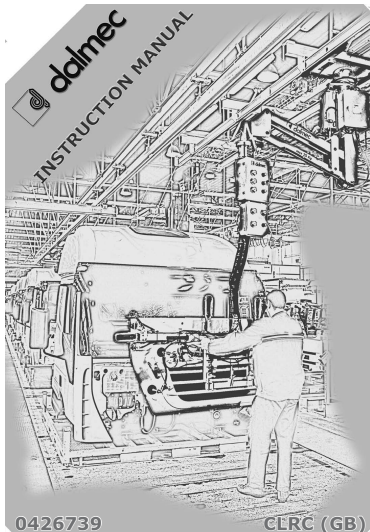
Supportgestell auf Untergestell mit Verbindungsplatten und Fußstreben
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Support-Frame Base



Inspected and accepted by C. Schnier/J. Collienne on Monday
Ready for painting, delivery to FZJ on January, 10th

Submodule Mounting



Manipulator arm for
submodule mounting to
FWEC backplate

Will be borrowed from CMS

Arrangement for transport
from CERN to Jülich
ongoing

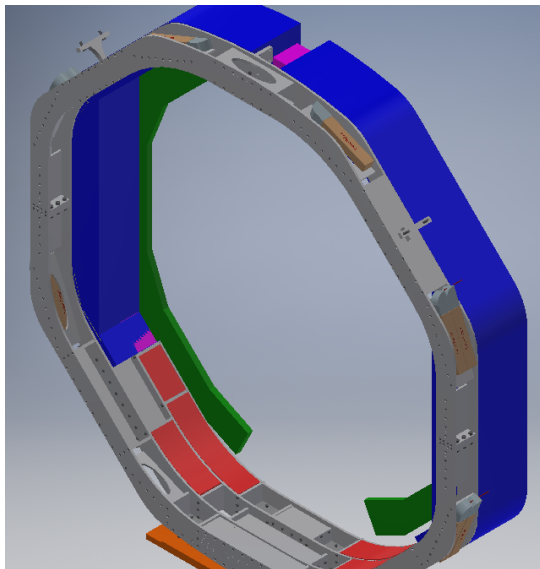
Submodule Mounting



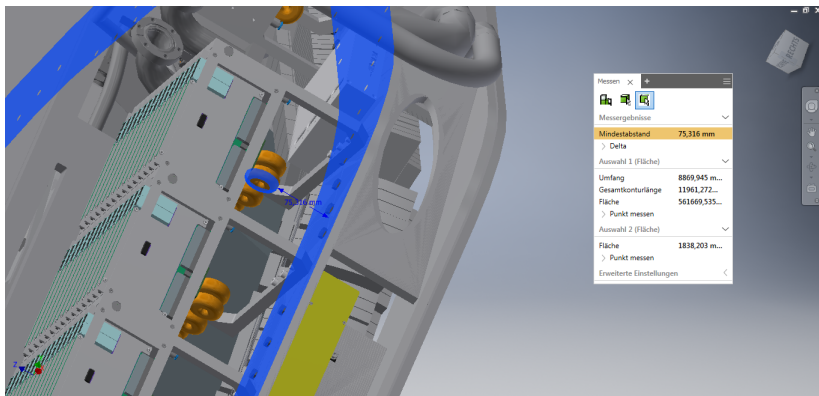
Cabling Clashes with Disk DIRC?

Disk DIRC group query to usage of space assigned to FWEC cabling

However, all space needed for cable routing (and mounting space)



Cabling Clashes with Disk DIRC?



Access to SADC crates from outer side necessary for connector plugging to backplane PCB