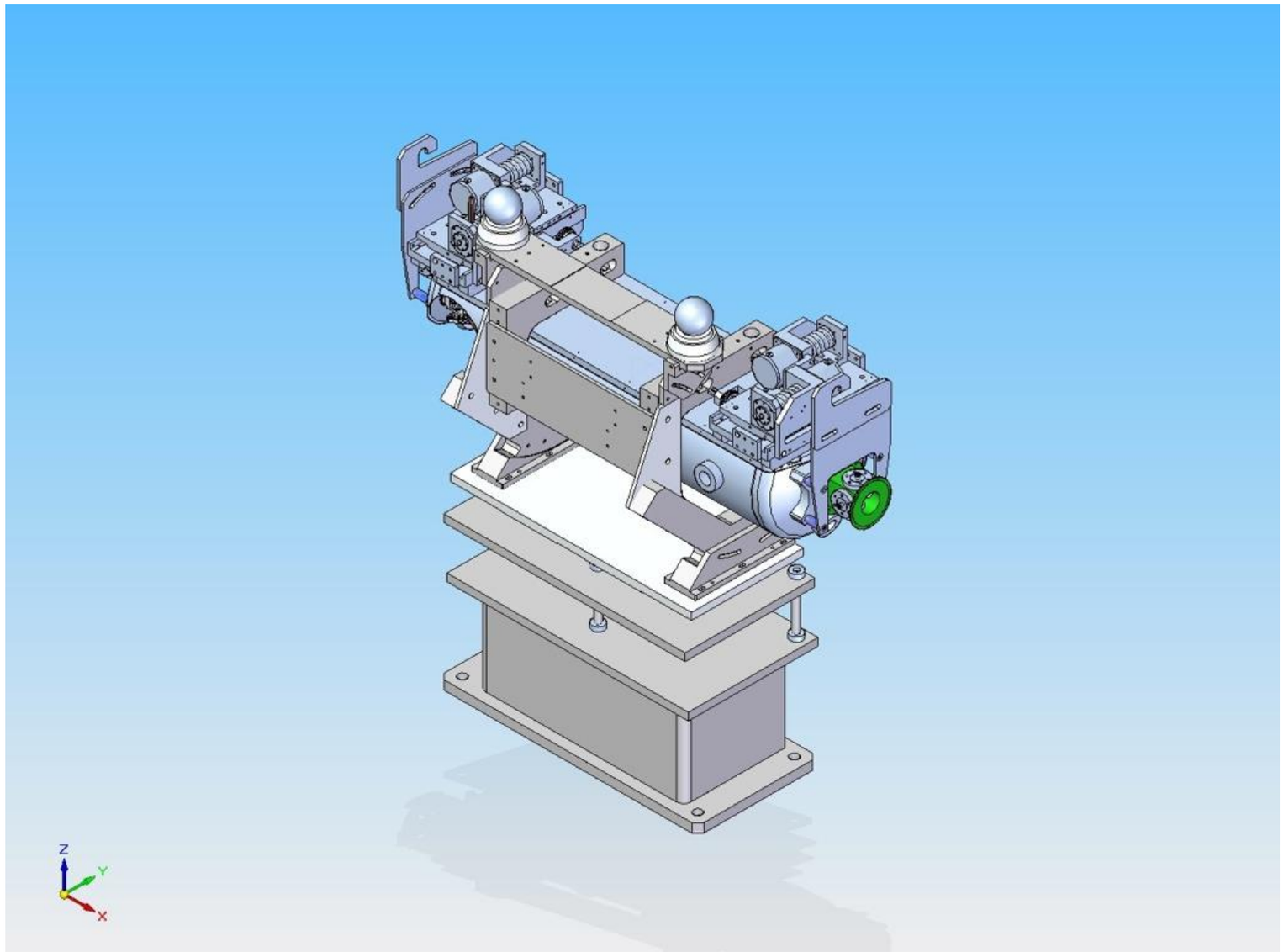
LARP Phase II Secondary Rotatable Collimator

5 min. Status Report

15th February, 2010



First Jaw (RC-0)

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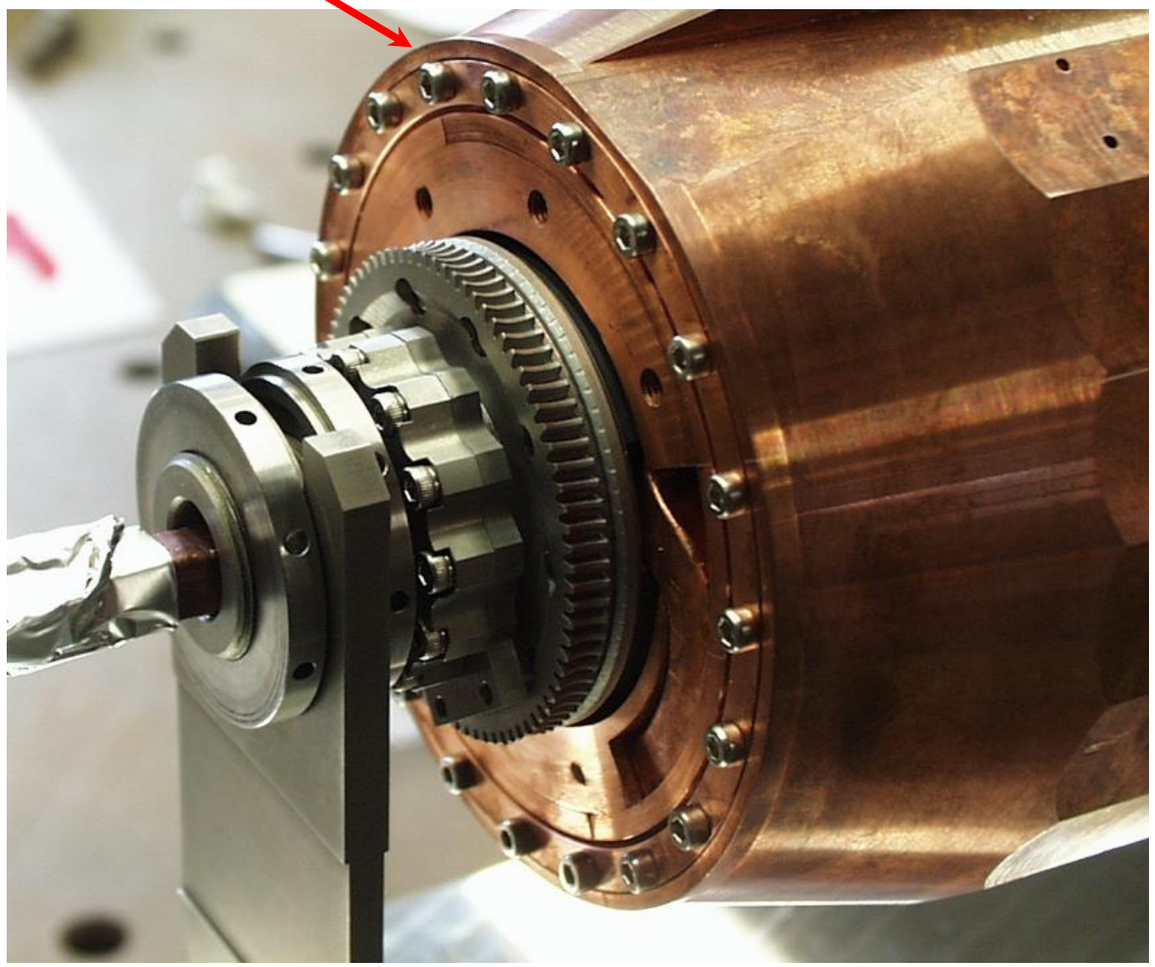
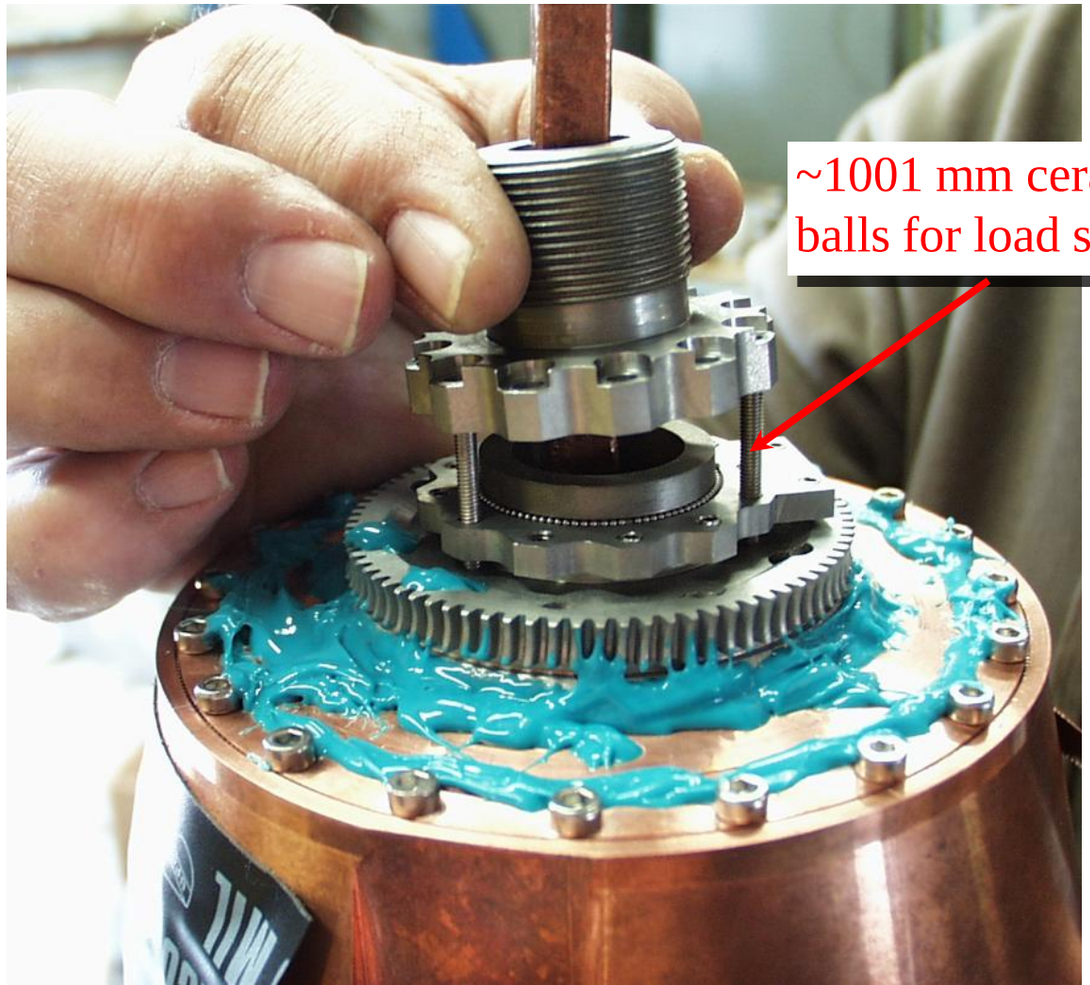
- First jaw bearings and supports finished and installed

~300 1 mm Rhodium coated SS balls for image current





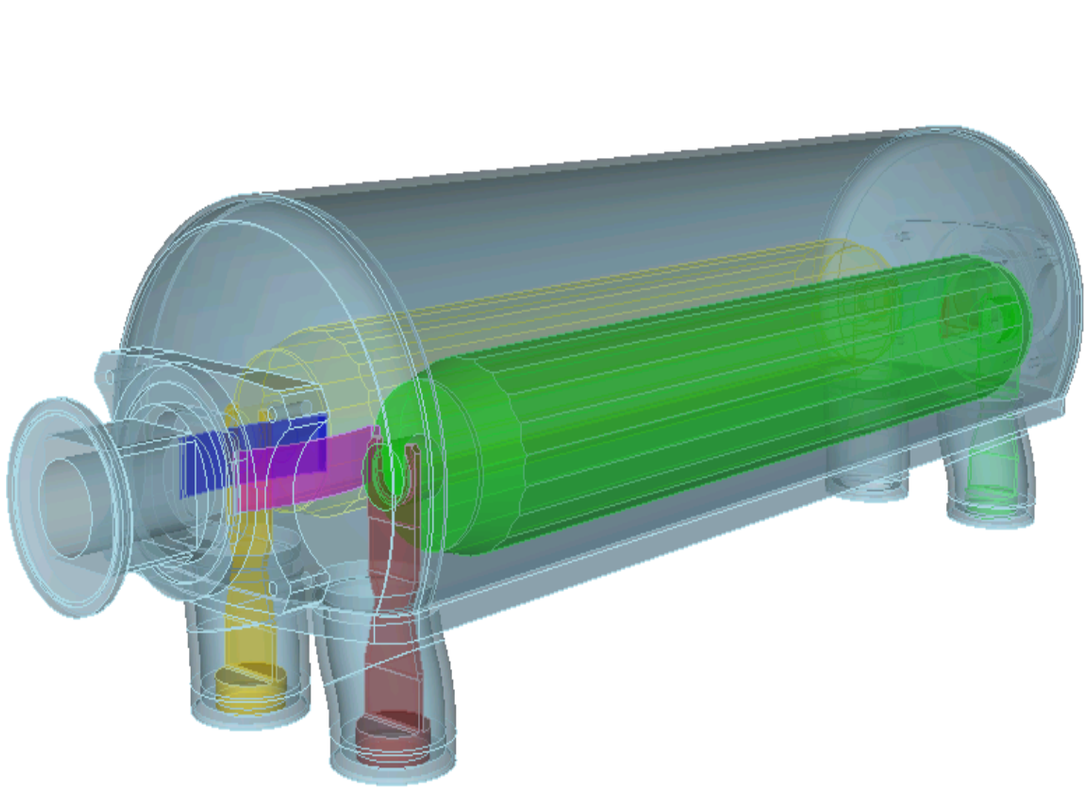
CMM

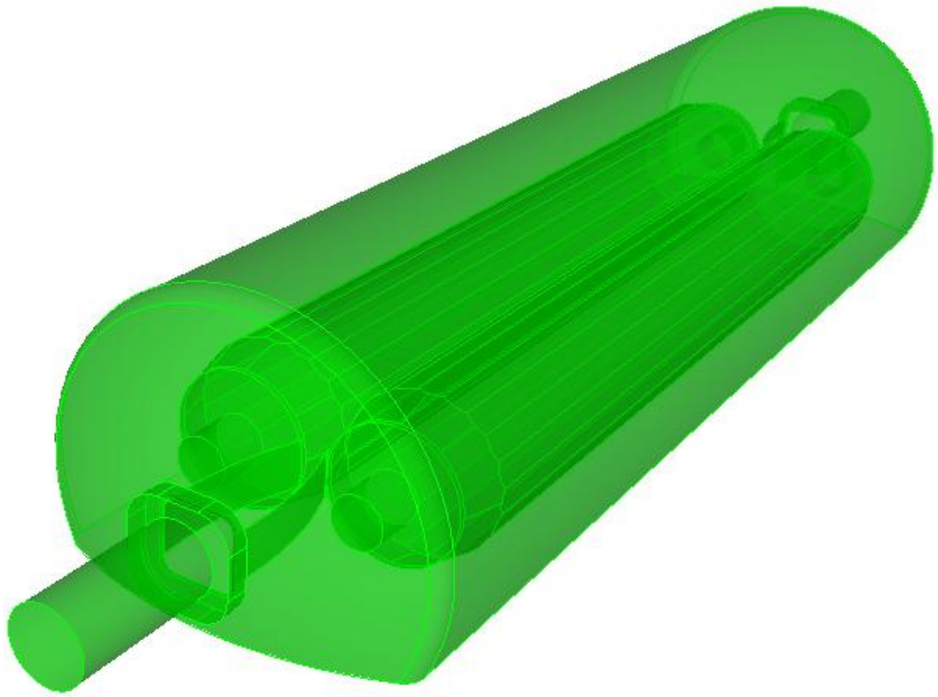
- CMM to give:
  1. Surface profile for each facet
     - confirm within 25 micron surface flatness
  2. Find axis of rotation and concentricity of each facet
  3. Gravity sag (Should be very small)

- Second jaw (RC-1):
  - Bearings being installed right now then goes to CMM

Trapped Modes Update

- Liling Xiao is finishing her studies of trapped modes with a more accurate model (Takes longer time to simulate)





Lowest Longitudinal Trapped Modes

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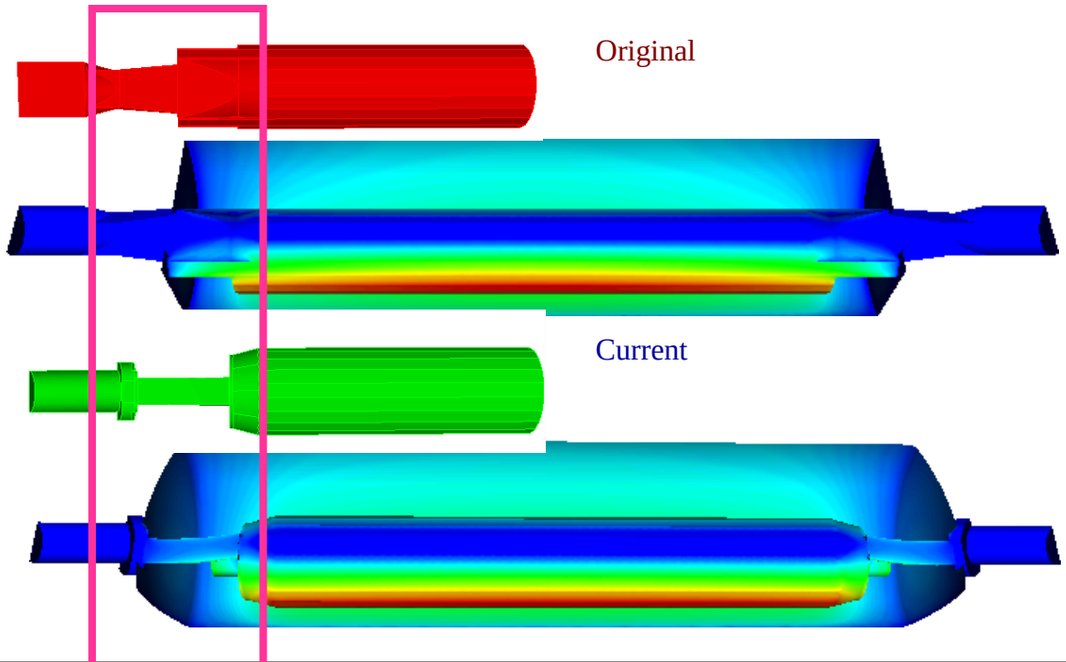
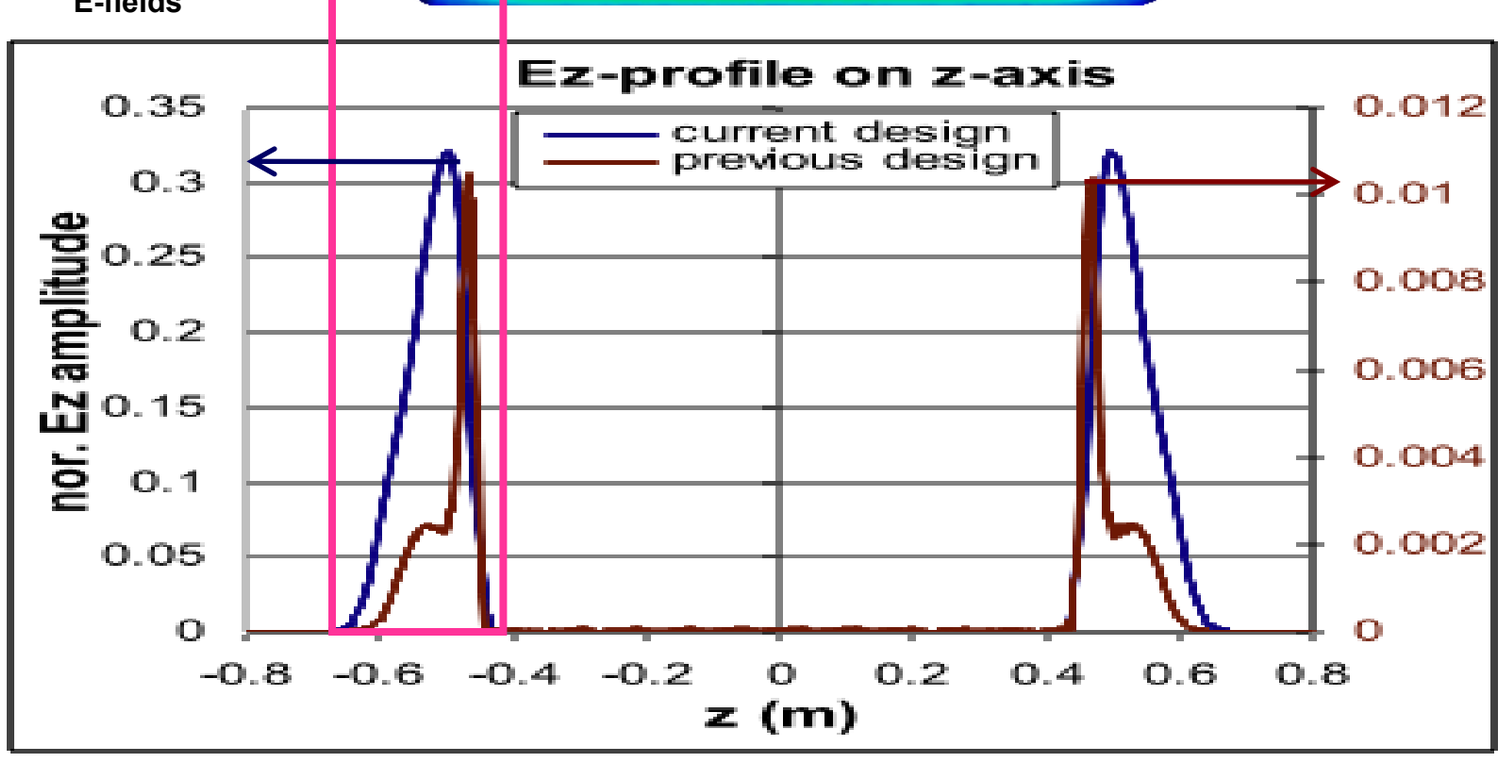
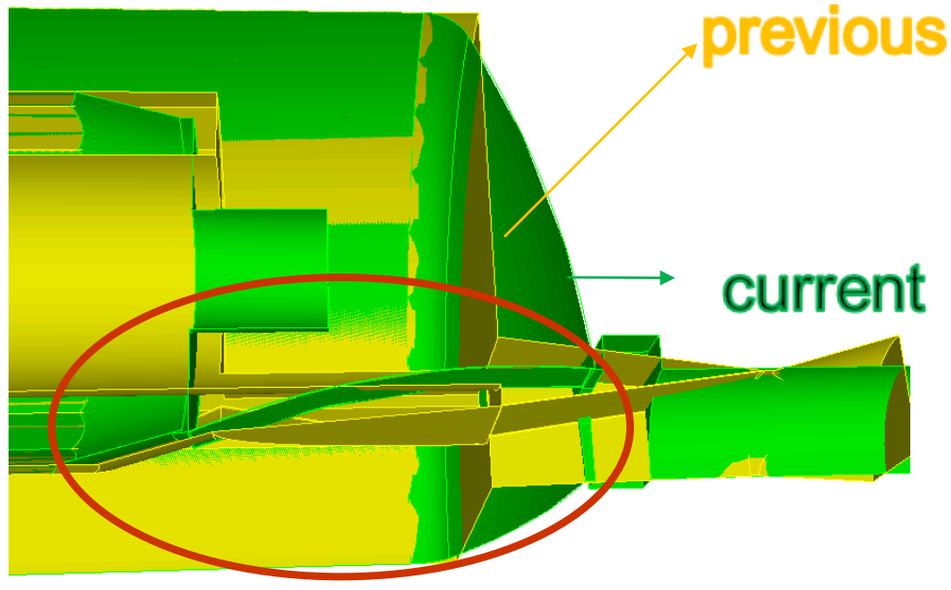


E-fields



Jaws are fully inserted with gap=2mm

- New design does appear to increase R/Q by about a factor of 30 (Q values remain roughly the same).
- In discussions with Elias Metral to determine if these magnitudes are acceptable for use in SPS or if we need mitigation methods
  - Use either
    - Redesigned transition regions or
    - ferrite dampers



Narrow EM foils as well as large distance between EM foils cause more Ez fields existing in the end regions of the vacuum tank along the beam path.

Liling Xiao, Dec.14, 2009