FEMAXX – OPAL

Beam Dynamics Link

status & prospects

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- **femaxx** now samples eigenmodal fields on cylindrical coordinate system

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- stores the fields in HDF5 file

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- **femaxx**/**postprocessor** converts fields into field maps in widely used T7 format

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- capability is now being validated, cf. pillbox cavity test example

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- work in progress: optimization for very large number of samples (~10^5)
- Work in progress: sampling on cartesian grid

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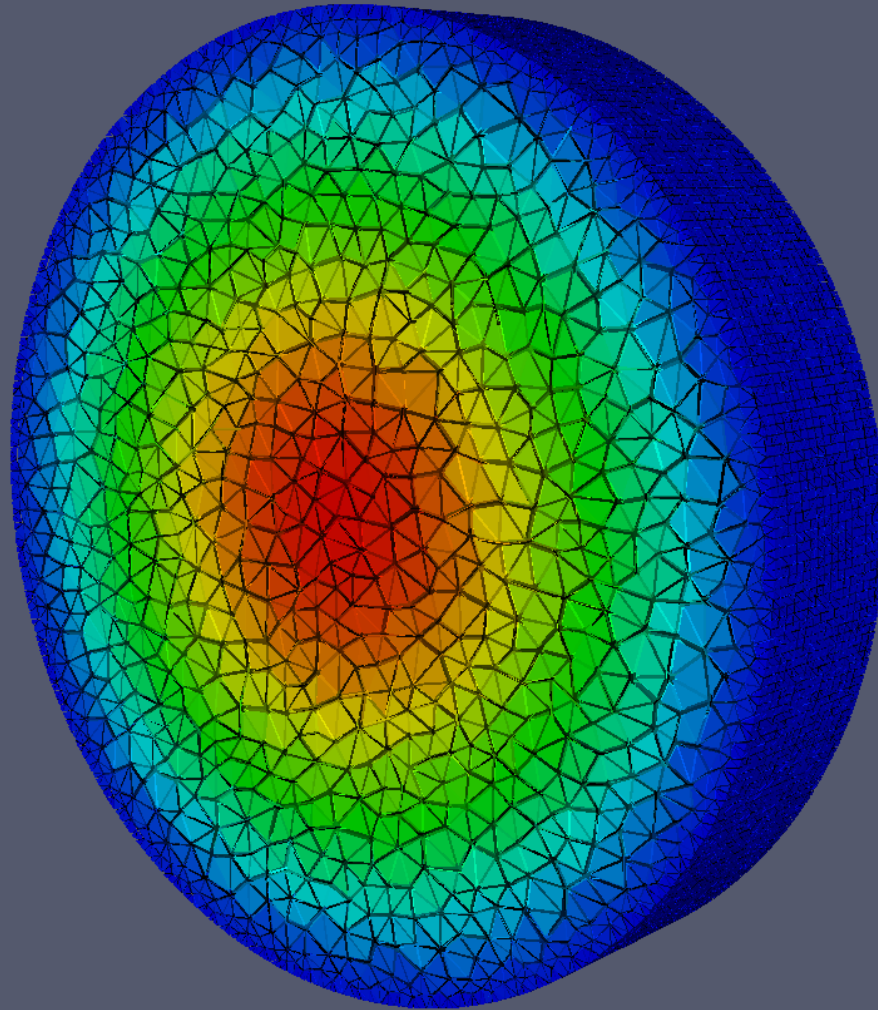
- pillbox cavity, TM_{010} mode

- R = 5cm, H=2cm

- F_{res}=2.294 Ghz (femaxx)

- F_{res}=2.297 Ghz (analytical)

- Δf = 0.13 %

- Q = 1.031 10^4 (femaxx)

- Q = 1.035 10^4 (analytical)

- Δq = -0.38%

- N_{tet} = 67'964

Prospects

- **geometry data for the 2-cell cavity is needed to validate T7 capability for XFEL**

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- cyclotron copper cavity geometry has been made available by Markus Bopp

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- IGES or STEP data format will do