



Graphite Calorimetry in Scanned Proton Beams

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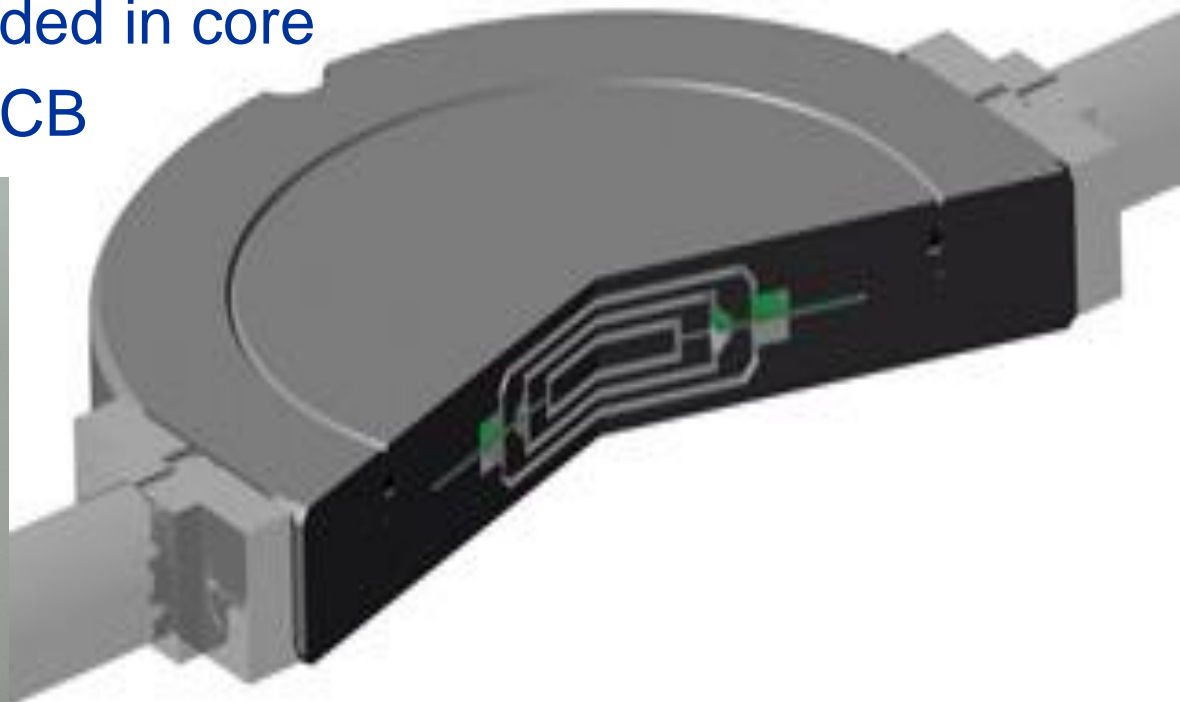
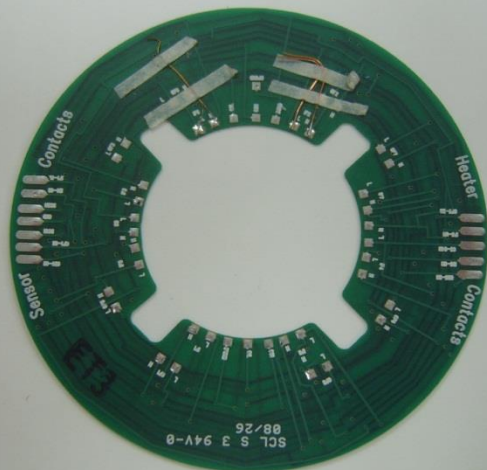
12th March – NPL PPRIG Workshop

Summary

- What is a graphite calorimeter?
- Measurements done in Clatterbridge
- Modelling
- Analysis
- Measurements done in Prague

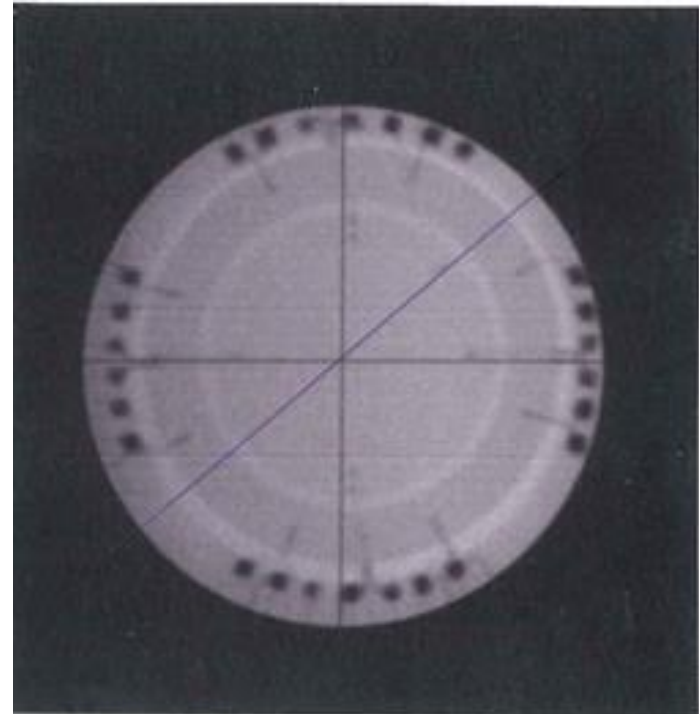
NPL Graphite Calorimeter

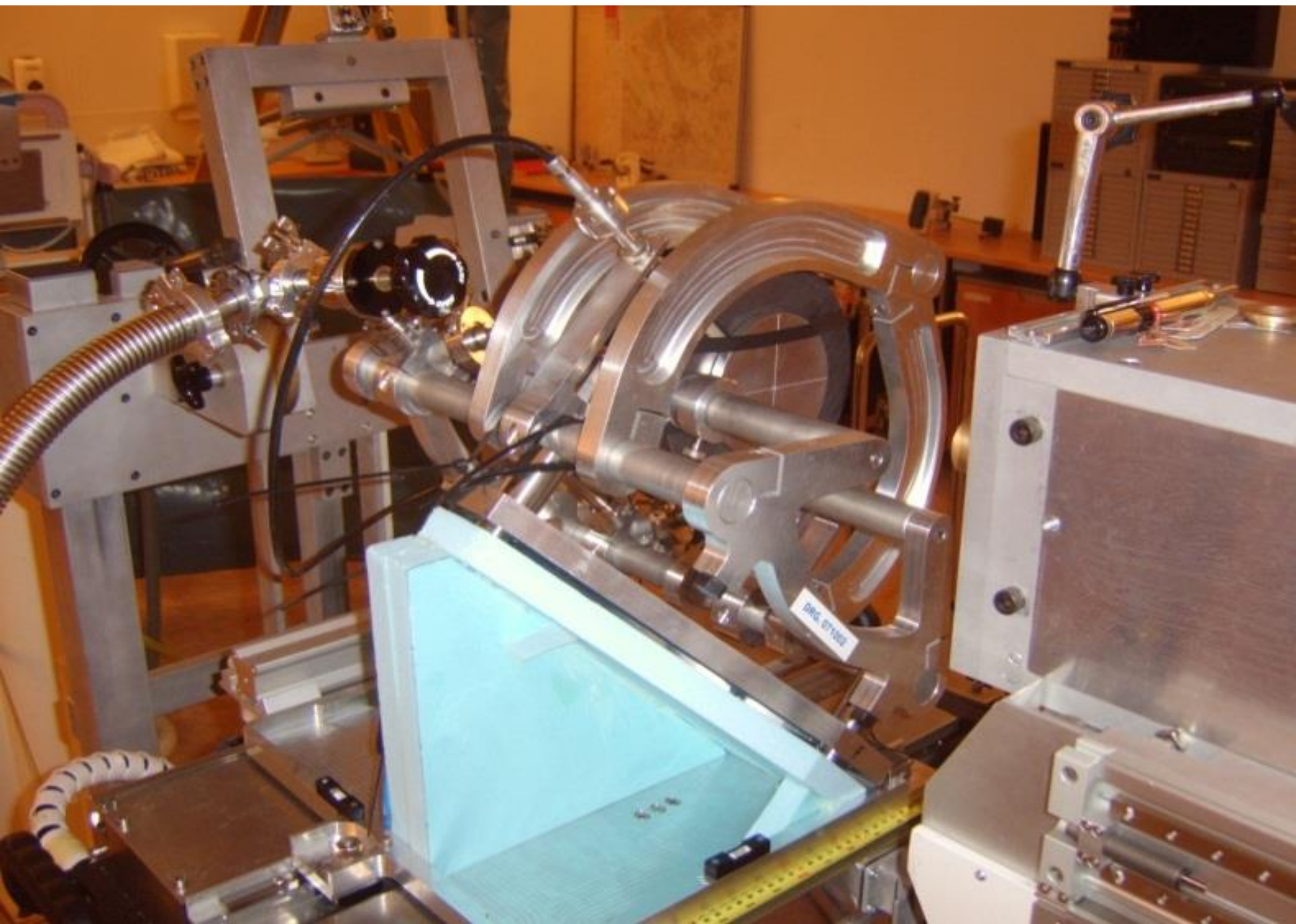
- Measures temperature rise due to beam
- Core surrounded by jackets
- Thermistors embedded in core and connected to PCB



Clatterbridge

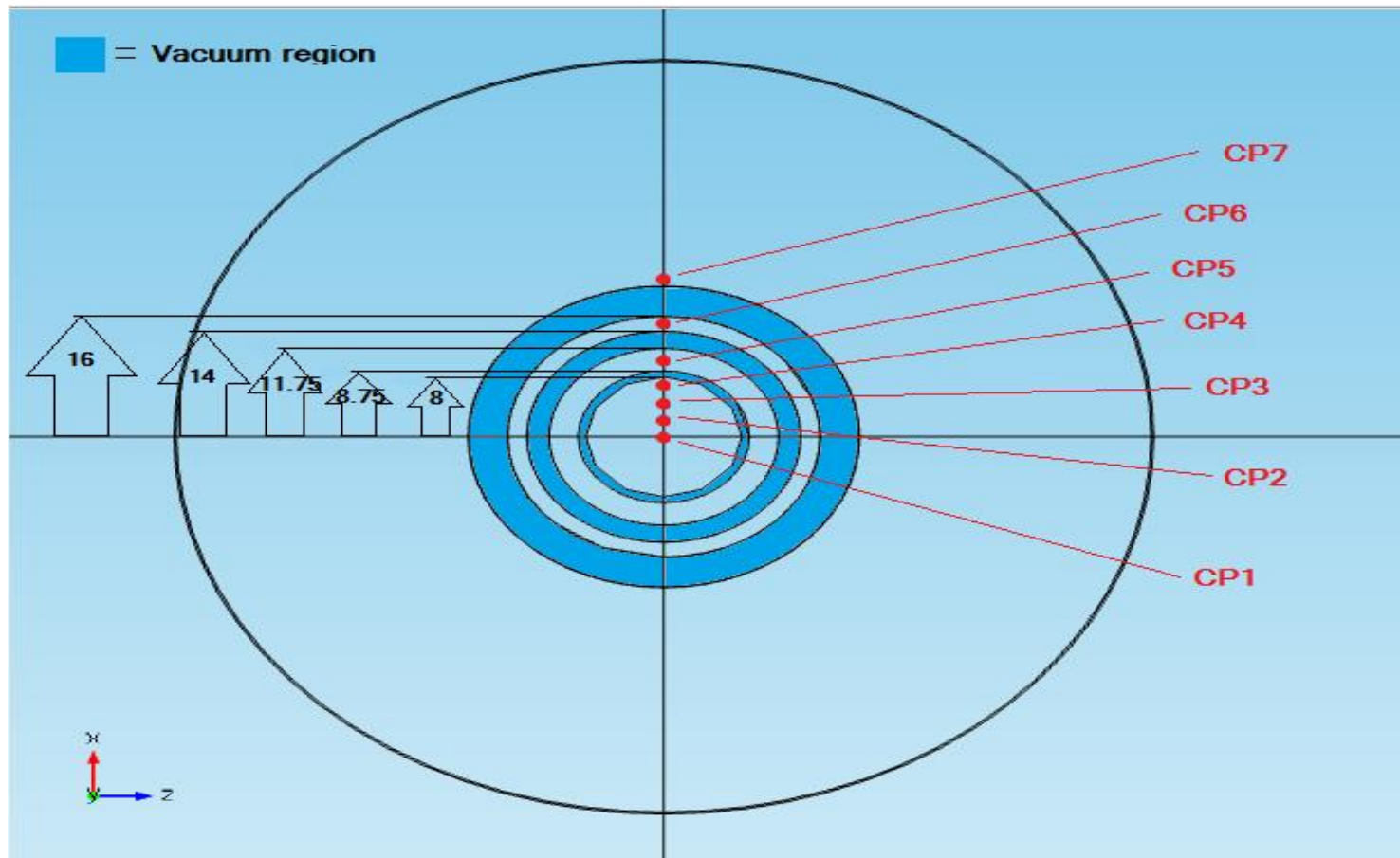
- Off axis measurements with 4mm diameter beam
- Scanned the calorimeter rather than the beam
- 45° angle required



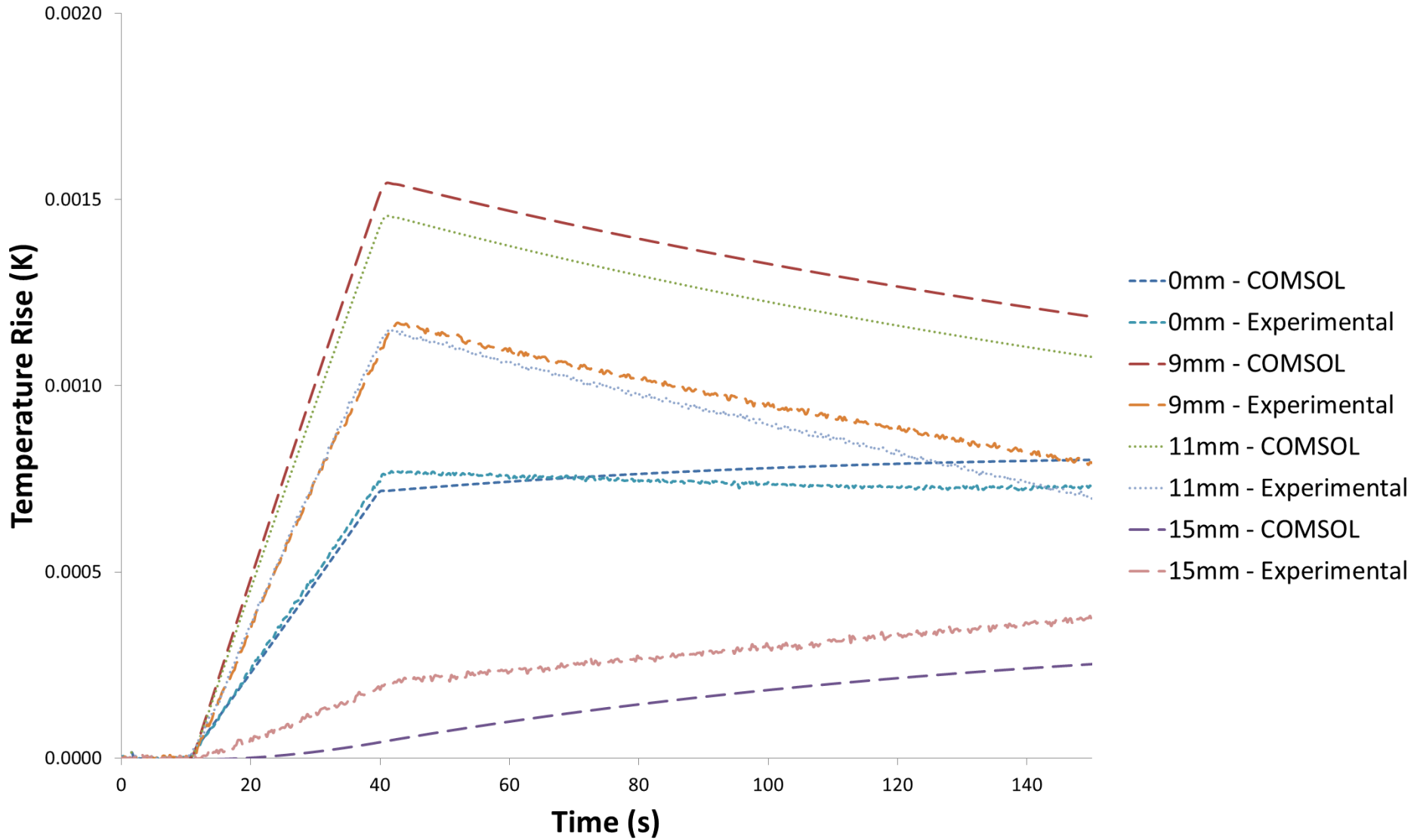


COMSOL modelling

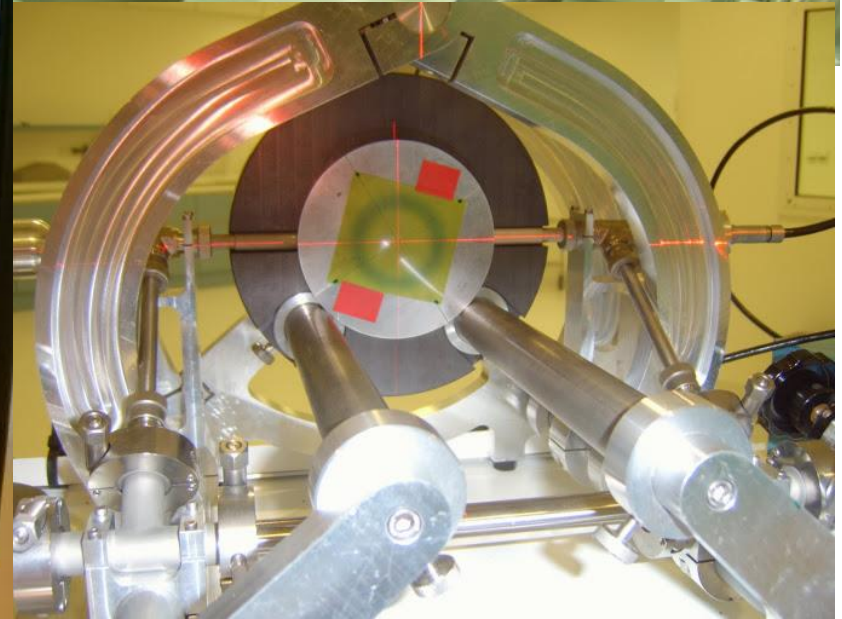
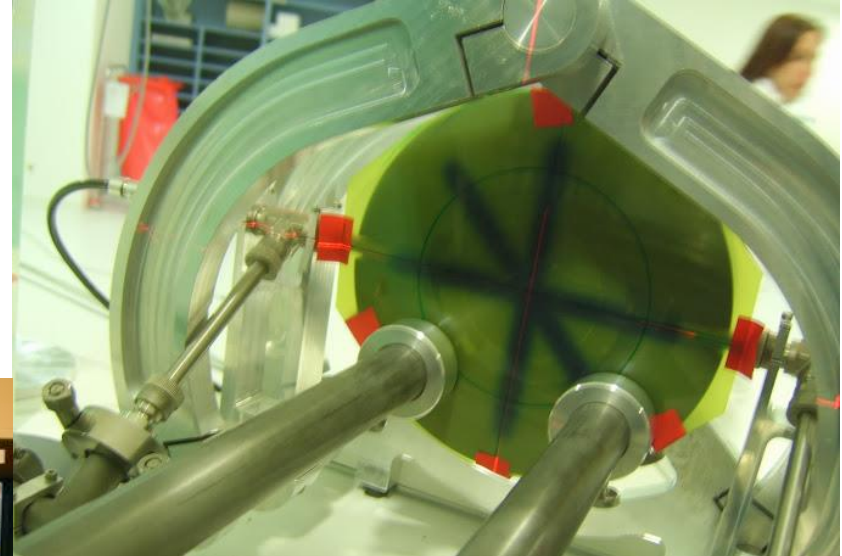
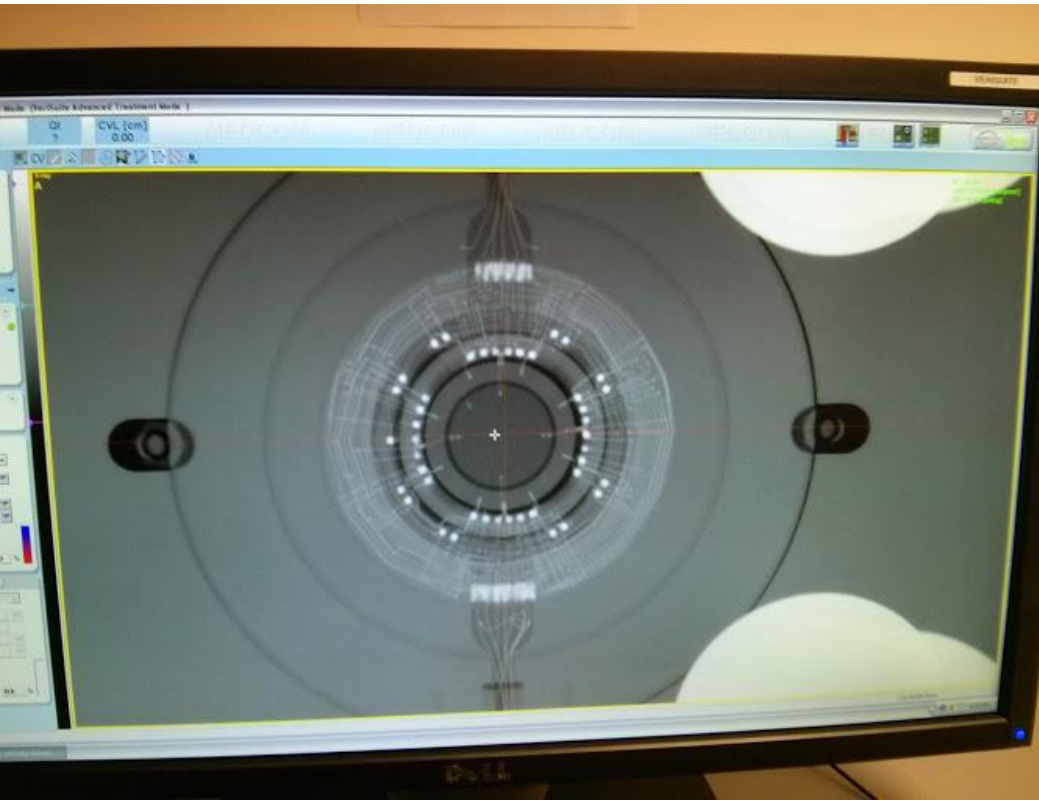
- Finite element simulation software



Analysis



Prague Measurements



Future work

- Refining COMSOL model
- Analysis of Prague data
- Monte Carlo modelling



Thank you for listening!