LEAPS INNOVATION

LEAPS-INNOV

Development in undulator technology

High Temperature Superconducting Undulators

May 9th, 2023

This project has received funding from the European Union´s Horizon 2020 research and innovation programme under grant agreement No. 101004728

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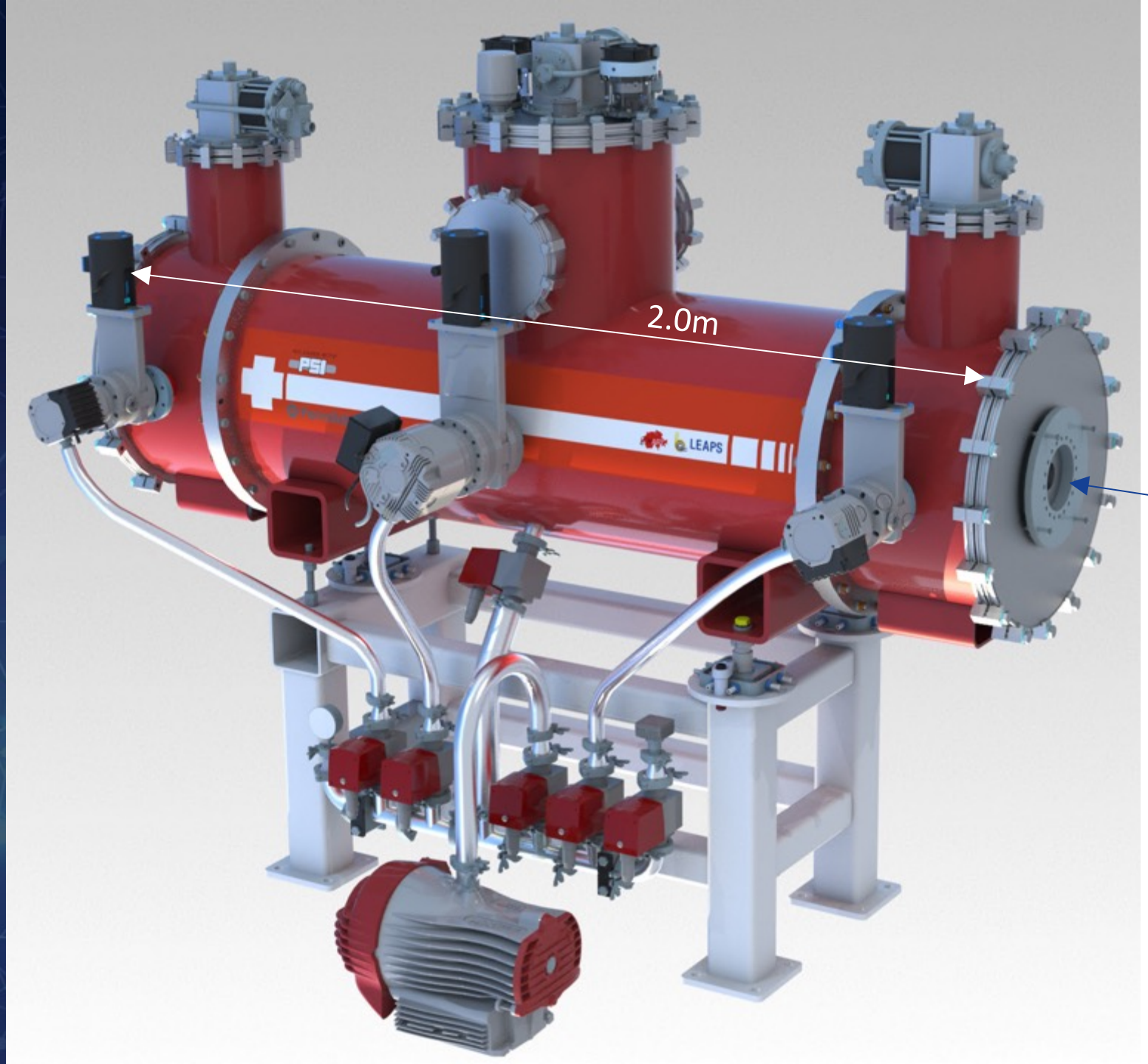
HTS Undulators



e^- beam

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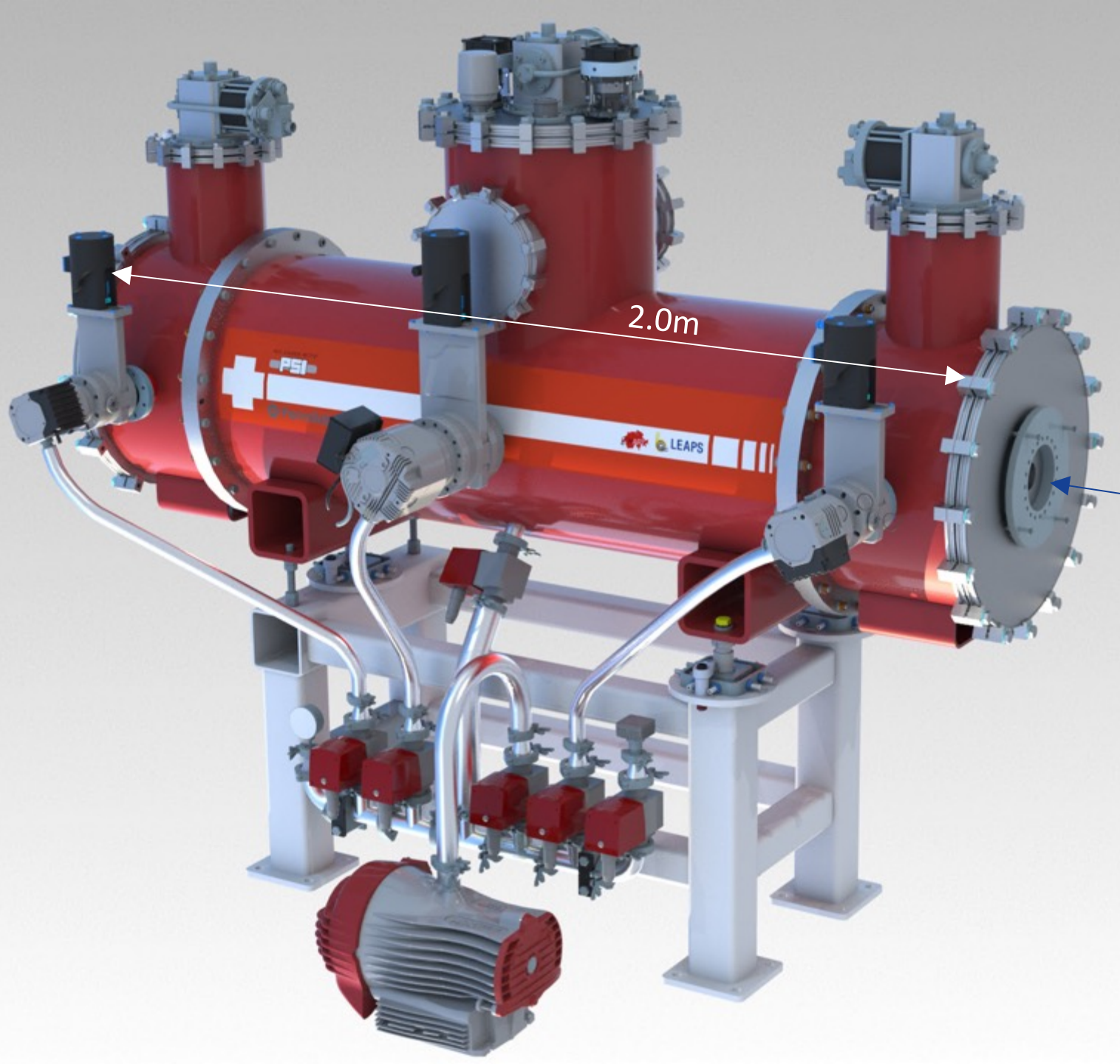

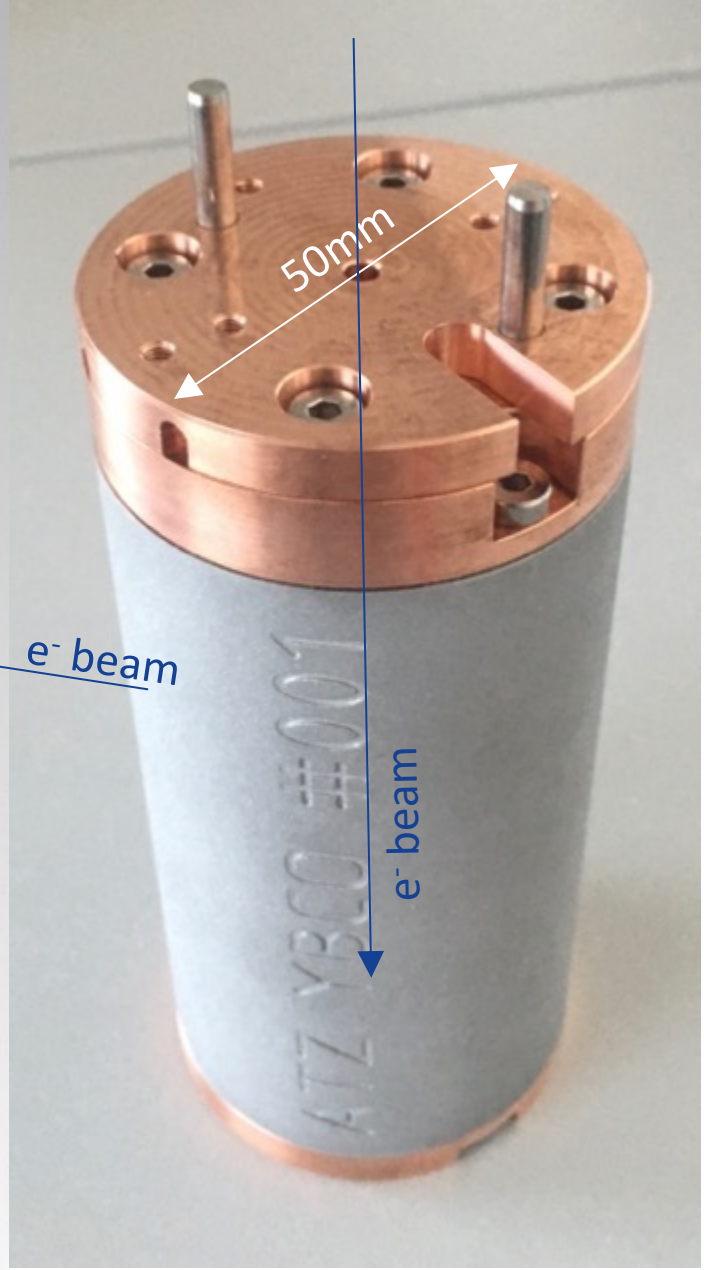

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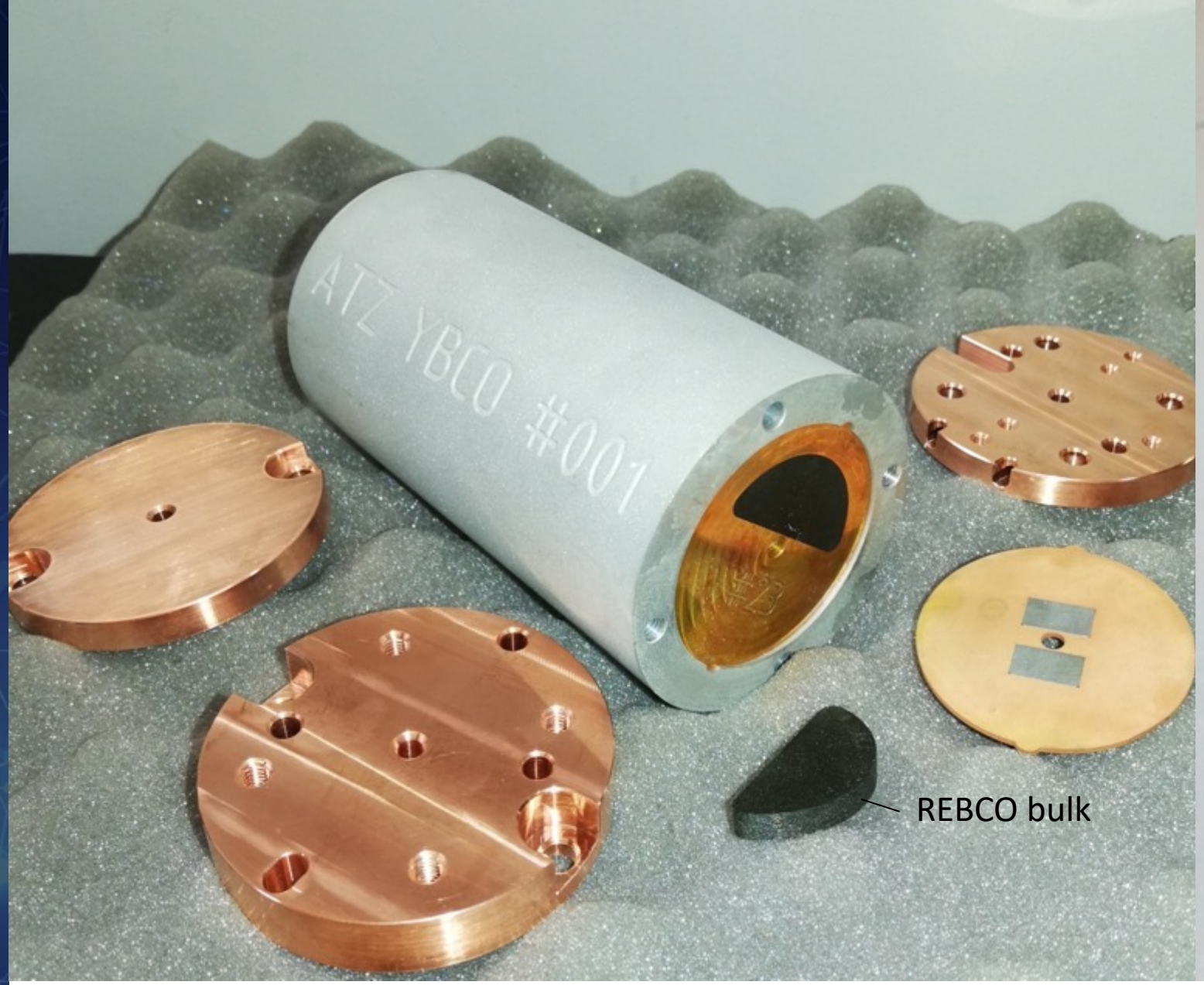

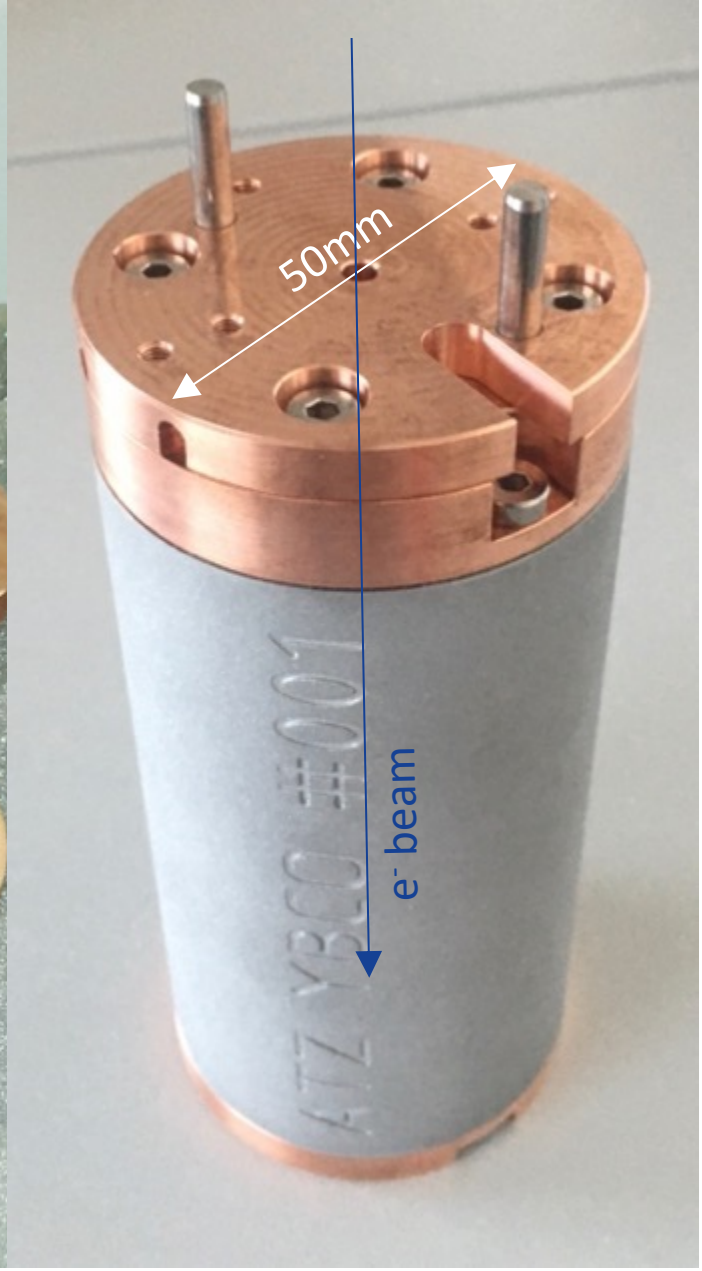

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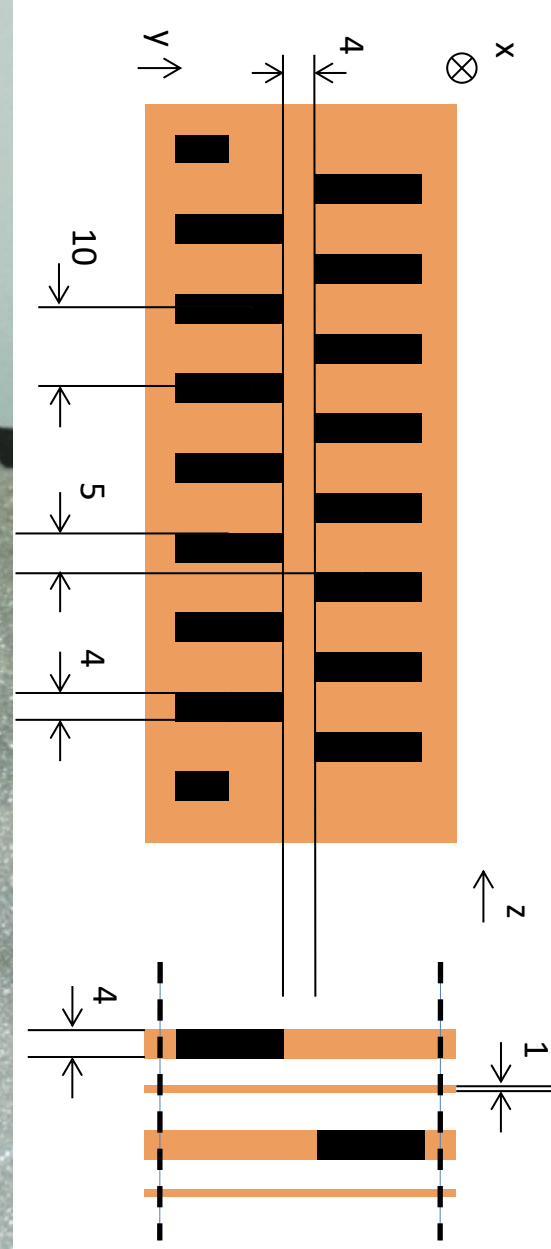

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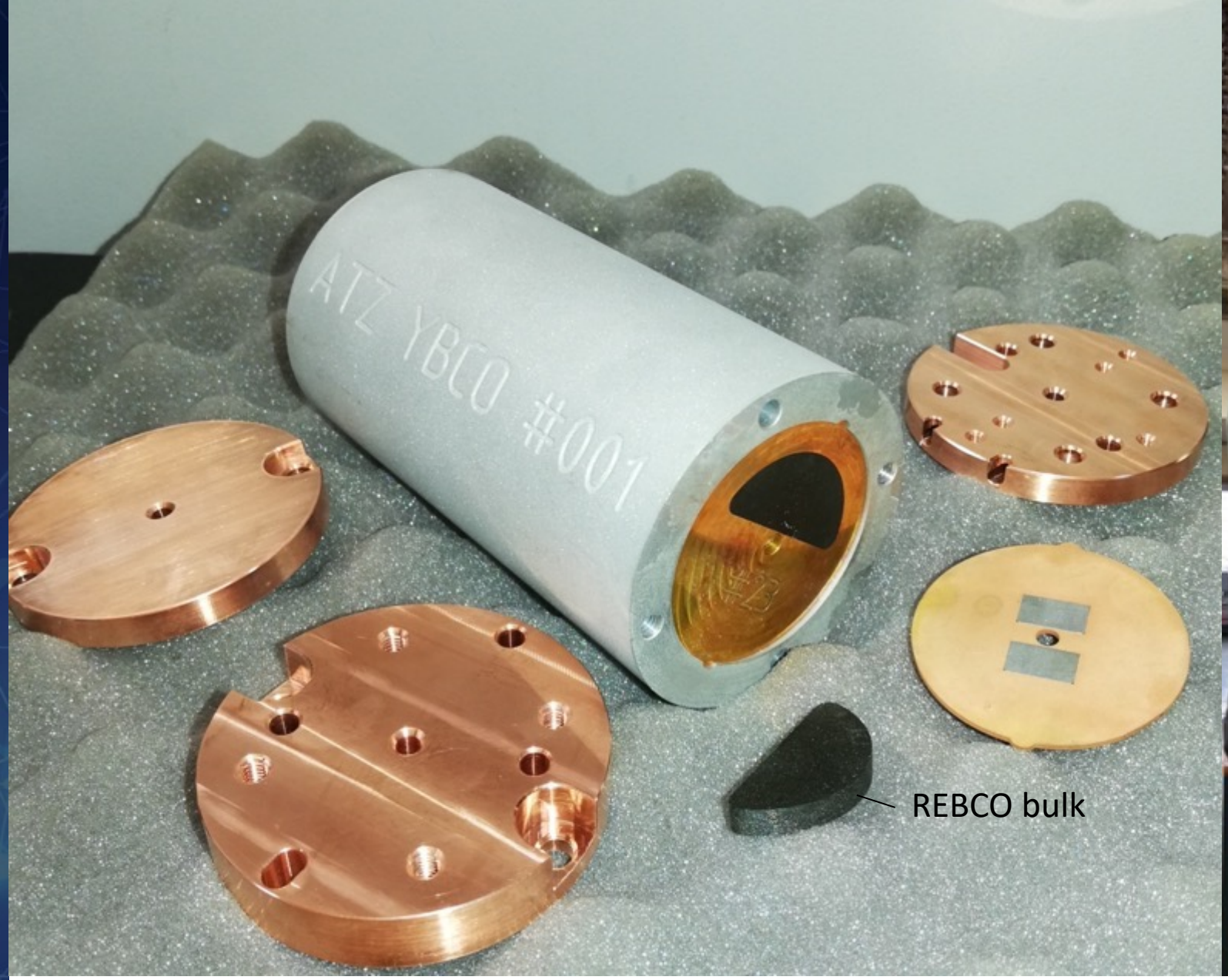

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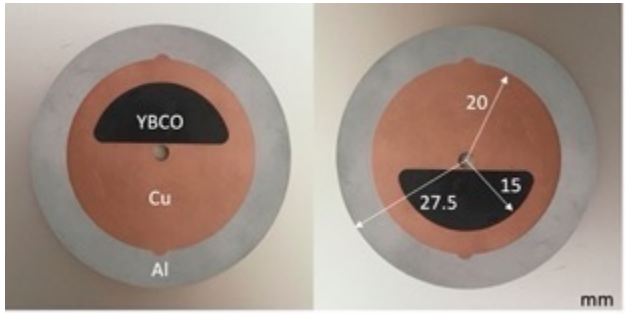
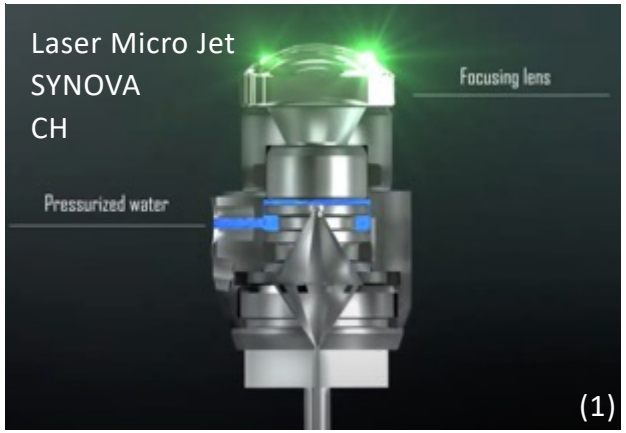
During this project we demonstrated for the first time that ReBCO crystals can be precisely machined with LMJ (1) or EDM (2)





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Why HTS Undulators?

Swiss Accelerator Research and Technology

- It goes beyond the status of the art undulator technology
  - Promises higher performance than Cryogenics Permanent Magnet Undulators (CPMU) & Superconducting NbTi Undulators, both commercially available respectively for instance by Hitachi & Bilfinger Noell
  - and promises as well lower production costs with respect to CPMU
- A new application of HTS REBCO bulks <u>beyond magnetic levitation</u>

Courtesy of Adelwitz Technologiezentrum GmbH (ATZ)

PAUL SCHERRER INSTITUT PSI

UNIVERSITY OF CAMBRIDGE

ESRF The European Synchrotron

Fermilab

SPring-8

KYOTO UNIVERSITY FOUNDED 1897

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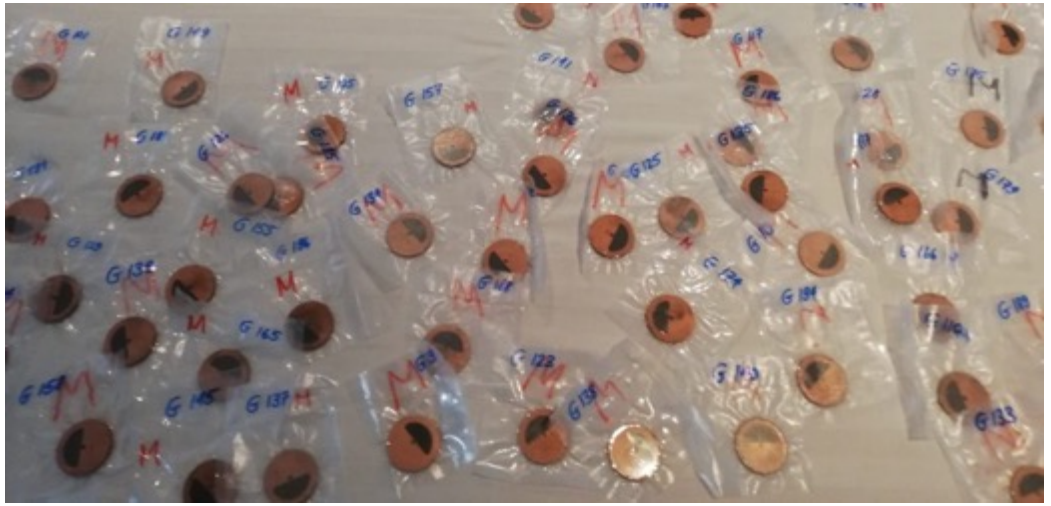
Recent achievements



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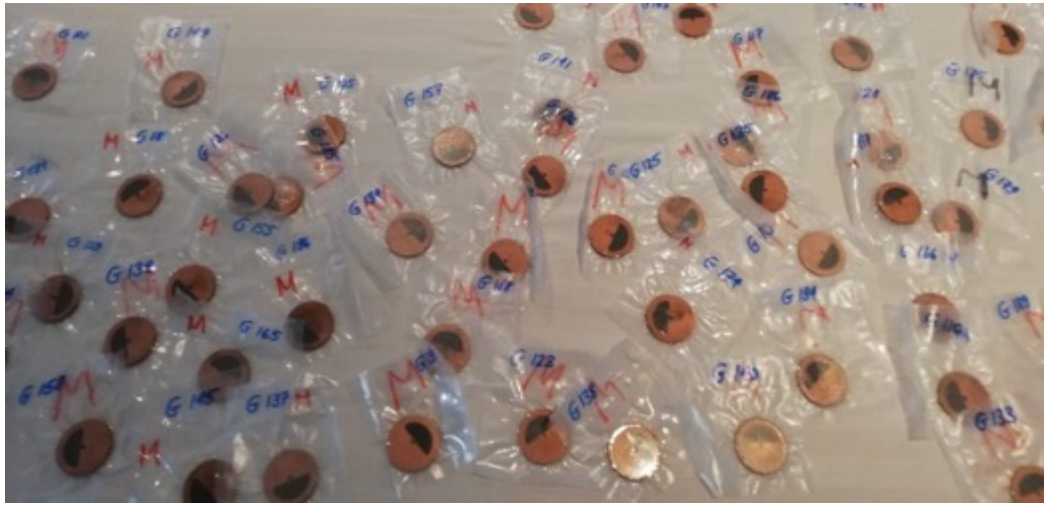
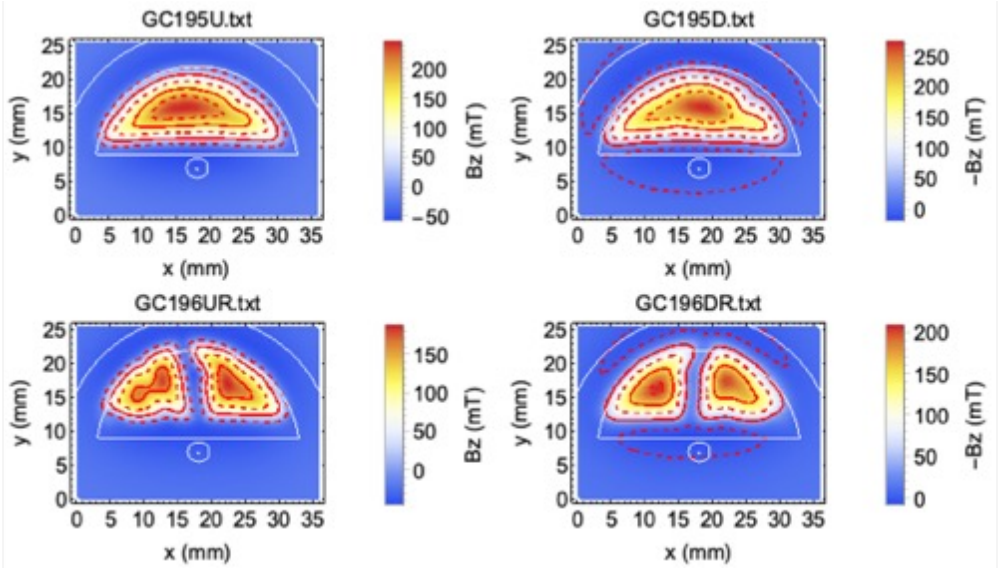
HTS Undulators

Recent achievements





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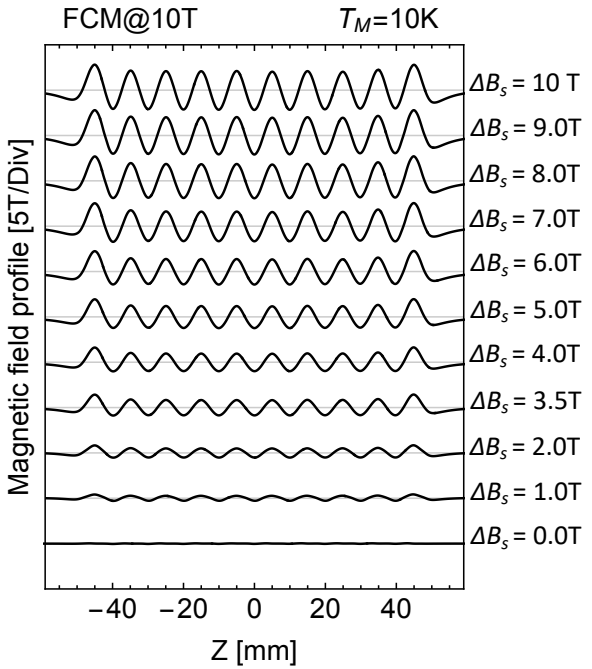
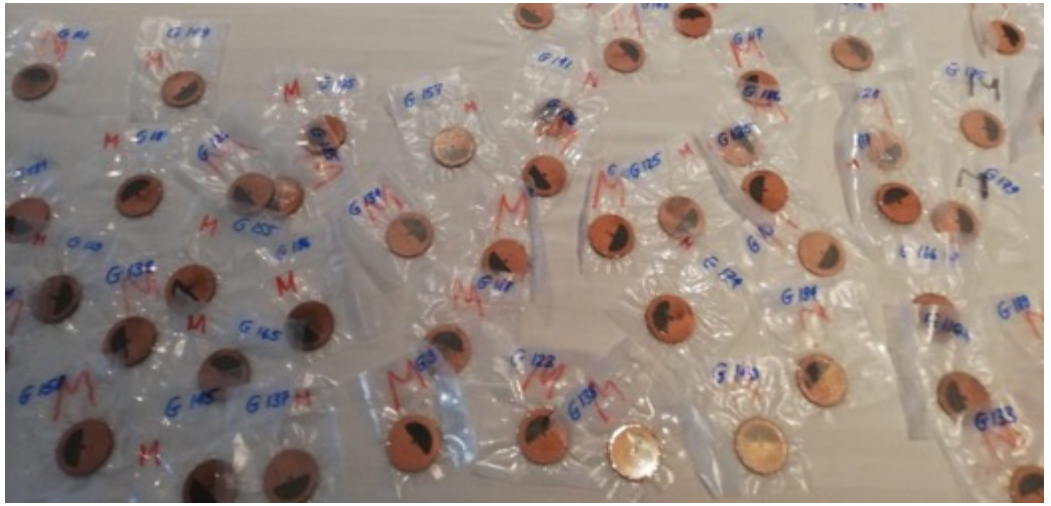
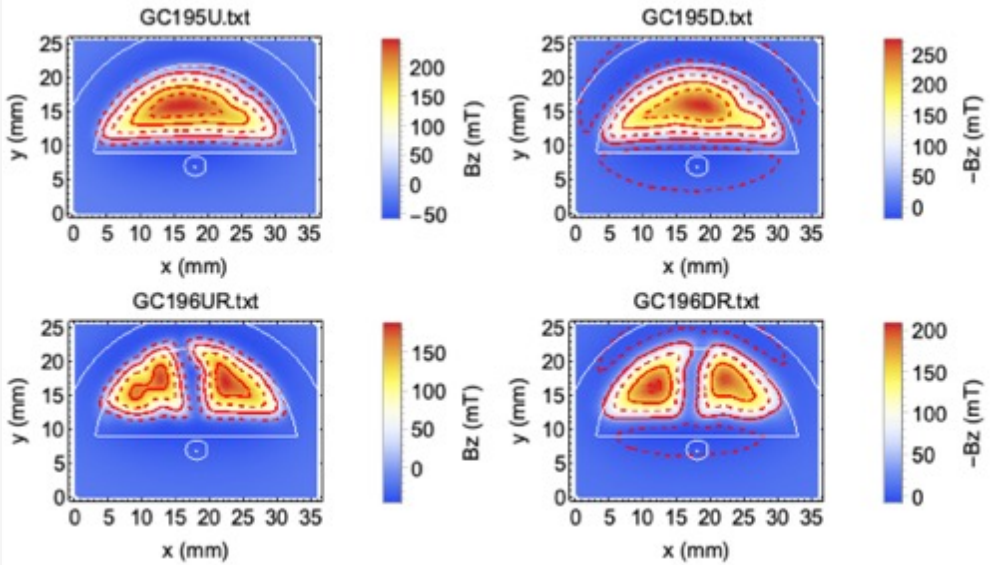


Recent achievements





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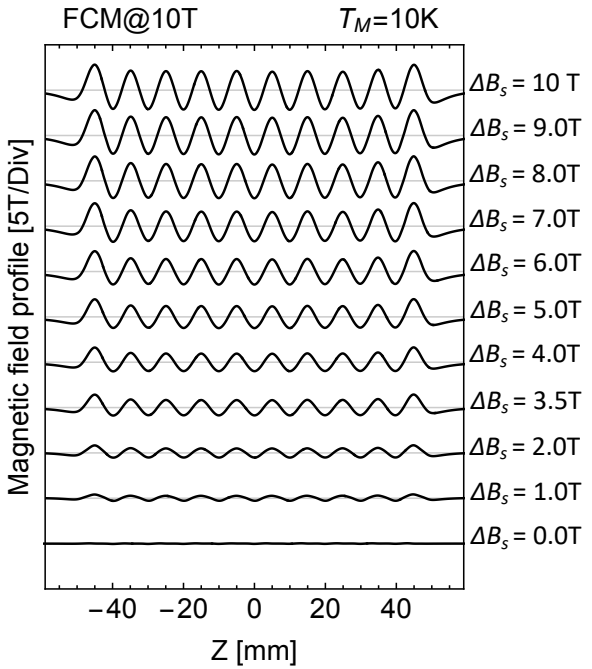

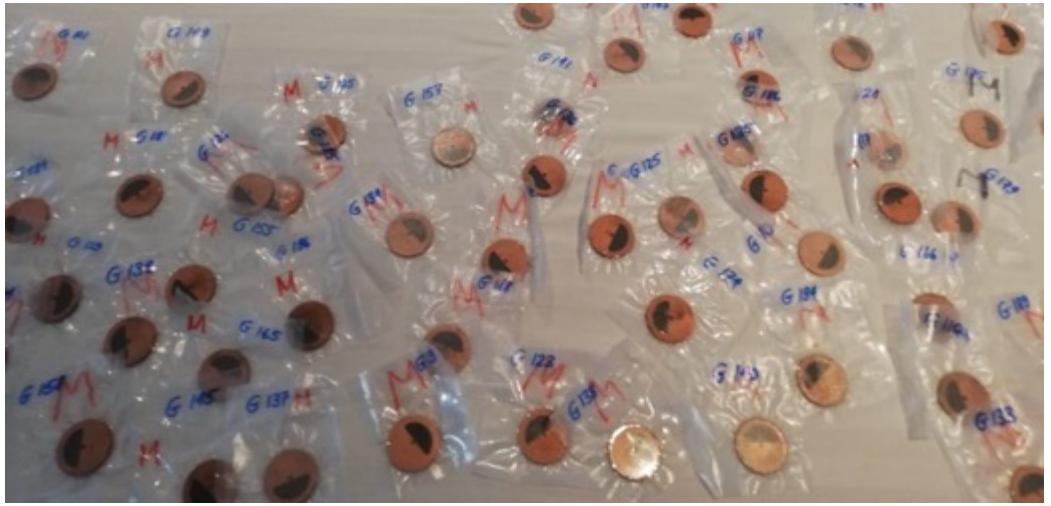

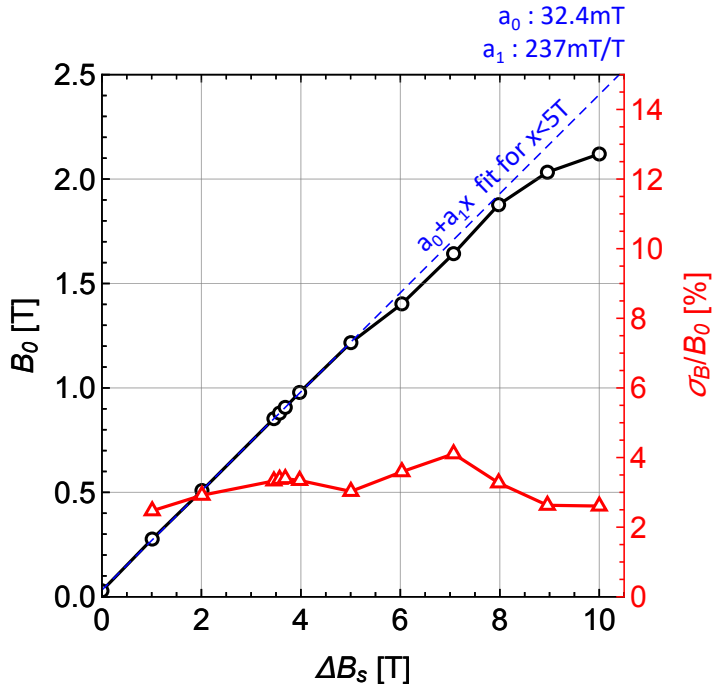

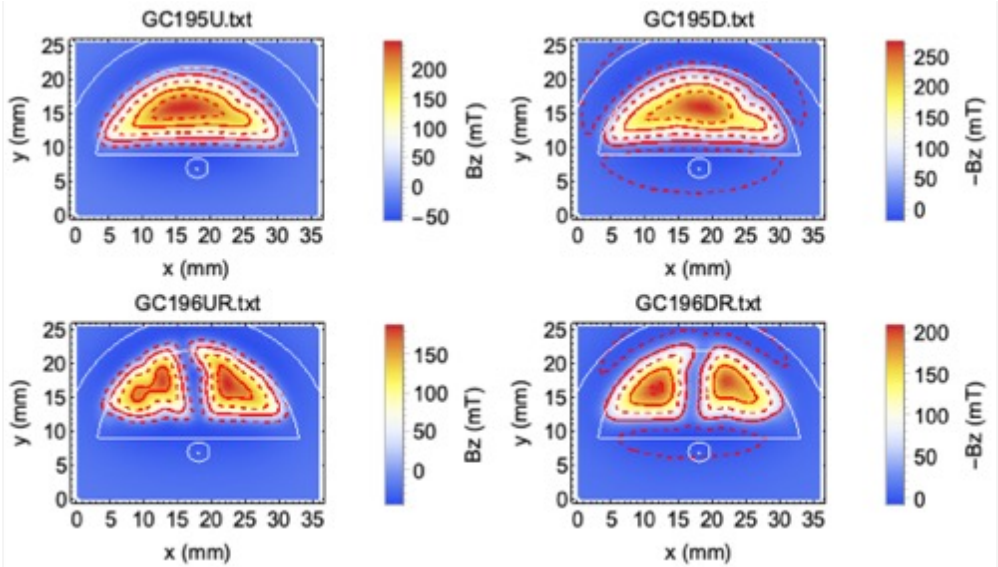

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