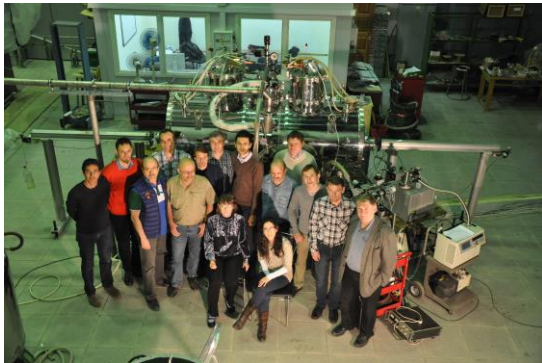


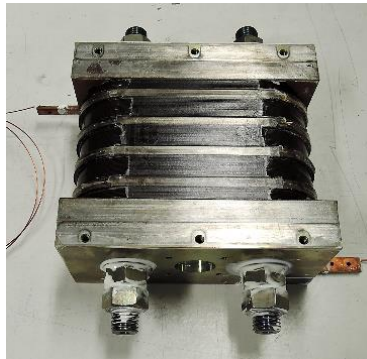
HTS wiggler and undulator development program

- Since more than 10 years we are developing in a collaboration between CERN and KIT and with other partners SC wiggler and undulator magnets to enable future CERN accelerator magnets (CLIC, FCC-ee)
- This program is part of the HTS magnet development program of CERN and is complementary to the development towards high-field accelerator magnets
- We plan to build in the next years short prototypes of helical undulators for positron sources and wigglers for damping rings

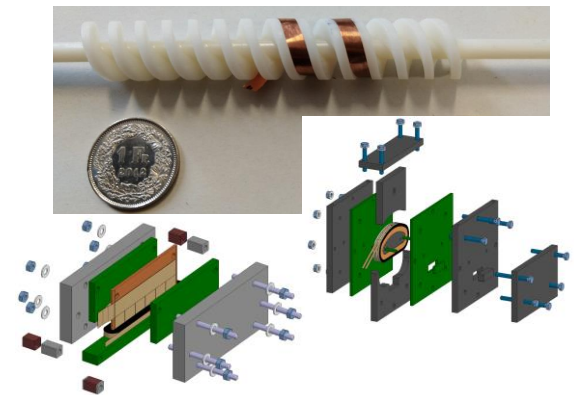
Nb-Ti prototype wiggler



Nb₃Sn prototype wiggler



HTS prototype coils



HTS Magnets

- Overall Aim: Develop HTS magnet technology for future Colliders (CLIC, FCCee, FCChh)
- Background: The project
 - links to long-standing CERN-KIT collaboration on SC damping wigglers
 - contributes to development of high performance SC insertion devices for damping rings and positron sources
 - complements the CERN high-field HTS magnet projects
- Objectives
 - HTS damping wiggler and helical undulator short prototypes
 - Winding & splicing technology, quench protection
- Partners: CERN, KIT-IBPT, KIT-ITEP
- Resources
 - 1 FTE 36 months (scientist/engineer), 1 FTE 18 months (high-level technician)
 - Travel expenses: 20k€
 - Other material expenses: 60k€
 - Invest: none

