



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under GA No 101004730.

Welcome

AMICI ETIAM Workshop on SRF Cavity Testing

Hans Weise / DESY & I.FAST WP13 / Sept 14/15, 2022



Introduction

- During the last years AMICI <https://eu-amici.eu/> supported the use of existing Technology Infrastructure to the benefit of large accelerator facilities in Europe and worldwide.
- The extremely valuable platforms existing in many laboratories are used in networking R&D activities but also in the frame of service agreements established between either laboratories, projects or with industry.
- The **AMICI** discussions and part of the activities are continued in the frame of **I.FAST** (Innovation Fostering in Accelerator Science and Technology), a Horizon 2020 Research and Innovation Program funded by the European Union.



ETIAM

European Technology Infrastructure for Accelerators and Magnets

- I.FAST Task 13.2 addresses the development and promotion of services to industry in AMICI Test Facilities.
- Sub-Task 13.2.3 (led by INFN) has the goal to organize at least two small workshops dedicated to a *particular type of Technology Platform* per year, which will gather personnel from the labs operating Technology Platforms (TPs) of this type and possible users in particular from industry.
 - Due to the character of SRF endeavors / facilities we explicitly include SRF based projects.
 - The big challenge for SRF is sustainability in production / testing / and installation of SRF cavities and associated components.

Test Benches for SRF Cavities

- With few exceptions industry is delivering key components and not complete turn-key systems / accelerator modules or section.
- Projects / research facilities work more and more based on an in-kind model with e.g. cavities, or rf power couplers, or frequency tuners, or vacuum parts, or assembly responsibility, or testing, or ... as selected work package(s). Final quality control and installation is often a task for the project owner.
- In the present workshop we emphasize the SRF single cavity testing, and the respective TPs successfully used for industry and projects.

Services for Industry and Projects

- Industry, and in some cases also projects, cannot afford setting up dedicated and unfortunately very expensive SRF cavity test stands. Usually, the cryogenic supply is the big challenge.
- AMICI partners can offer
 - Complete infrastructure (often almost ready to be used)
 - Expert knowledge
 - Work in an excellent scientific and technology network
- AMICI partners can profit due to
 - sustainable involvement in high technology developments
 - sharing of knowledge
 - reasonable capacity utilization

Balancing between Services and in-house R&D

- All AMICI partners have their own R&D programs and goals.
- Some AMICI partners operate large scale facilities and have a constant loading of their TPs while taking care of spare or replacement accelerator sections.
- Many AMICI partners
 - have joint projects
 - support each other
 - face similar problems e.g. rising energy costs and Helium shortage

Workshop Program

- The idea of the workshop is to introduce and discuss the measurement infrastructures of the different labs, including all the actually planned upgrades concerning diagnostic and test systems, as well as test capacities.
- The projects can introduce their needs and schedules for cavity testing and we can discuss face to face further. For us the in-person discussions are absolutely important, after the long Covid suffering break.
- The workshop has several sessions highlighting the individual TPs. We also include possibly associated AMICI members, presently not belonging to the core group.
- The informal exchange between TPs and industry is the workshop goal. Discussion time slots as well as the informal working lunch and dinner offer many possibilities to foster existing or develop new contacts.

Workshop Support

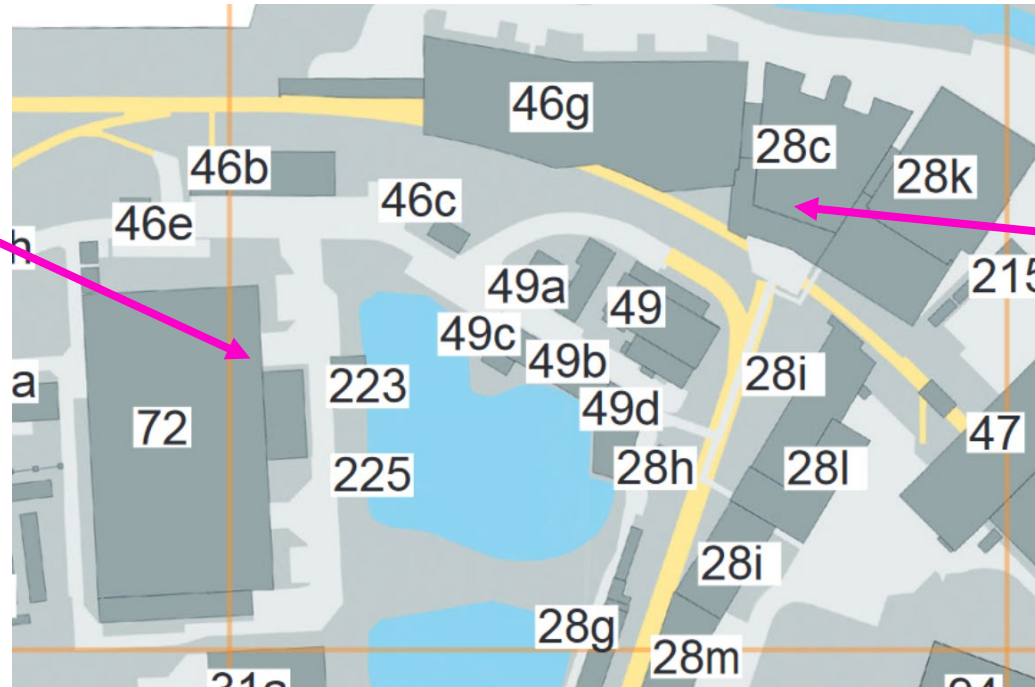
- This project has received funding from the European Union's Horizon 2020 Research and Innovation program under GA No 101004730.
- The Program Committee for the workshop consists of
 - Lea Steder / DESY (CHAIR)
 - Andrea Lidl / INFN LNF (I.FAST WP13.2.3)
 - Akira Miyazaki / Uppsala University
 - Hans Weise / DESY (I.FAST WP13.2)
 - Alan Wheelhouse / STFC
 - Mateusz Wiencek / DESY (AMTF Test Stand Operation)
- The local organization is supported by Alexandra Dörner, Karol Kasprzak, Denis Kostin and three PhD students Rezvan Ghanbari, Ricardo Monroy Villa and Jonas Wolff.

Thank You!

Logistics – Questions?



**FLASH
Seminar
Room**



AMTF





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