



WP1 – FE-FRT: progress to take into account Advisory Board recommendations

- **Progress** to take into account Advisory Board recommendations
 - *“While technical challenges such as cooling during cold tests remain under investigation, no critical blockers have been identified”*
 - This has been proven by CERN’s final TDD1 cold test, which showed very good performance by the FE-FRT itself and mainly limitations by the complications arising from anti-cryostat operation in a VTS setup. However, this requires further analysis, but should fulfill MS3
 - *“...although inconsistencies in ceramic ring preparation persist.”*
 - to tackle that, a much simpler and easier to use test resonator has been produced to measure permittivity of samples after treatment, radiation exposure , etc. This will also give more insight into the use of HZB’s FERMAT teststand and the required parameters for the FE-FRT itself. To not impair the task’s progress, the FE-FRT assembly and testing at HZB is pushed forward with systematic, consecutive testing to reach MS4. All work is on track here.
 - *“Looking ahead, efforts should concentrate on delivering the remaining project objectives, particularly the integration of the FRT into the PERLE module, while ensuring that supporting studies remain targeted.”*
 - To target this, MS1/D2 have been requested to be shifted towards the end of the project to allow a collaborative effort of all WP1 partners (HZB, CERN and IJCLab) to work on the objective by incorporating the lessons learned by task 1.2 and 1.3, the fundamental studies of 6.2 (U Lancaster) and also by WP6 with the procurement of cryo-module #1 (iSAS PERLE module), which should lead to a reasonable and realistic design.
 - *“...assessing energy and carbon savings using consistent methodologies;”* A measure to quantify this information within the framework of the energy savings metric of iSAS has been developed. Here, all losses will be tried to be taken into account, i.e. RF power savings versus cryogenic losses, to name one.