



Contribution ID: 59

Type: Oral

## Long-Term-Follow-Up at Superconducting Components under Cryogenic Conditions –Part II: The Successful Monitoring of a Superconducting Quadrupole during Three Thermal Cycles

After the adaptation and enhancement of circumstances resulted from the first measurements through glass and occurred peculiarities a successful measurement campaign was done.

At the FAIR synchrotron SIS100 there exist several superconducting quadrupole doublet modules (QDM). One of these QDM was observed and monitored during three thermal cycles, measuring outer and inner references at several environmental conditions: cryostat ventilated at room temperature with installed glass windows, then the same temperature but under vacuum and third the crucial measurement at 4K inside the vessel. All measurements inside were transferred onto the outer fiducials on the vessel and yielded to reliable results. The three full cycles showed an almost identical behavior of the cold mass vs. the cryostat. The measurement chain with selected results and comparisons will be presented on this second work regarding the measurement-at-superconducting-conditions-topic.

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**Session Classification:** Session 12 - Surveying concepts and strategies II

**Track Classification:** Surveying Concepts and Strategies