

HL-LHC DWQ HOM coupler design and SPS measurements

Tuesday, 2 October 2018 11:30 (30 minutes)

The Double Quarter Wave (DQW) crab cavity will be installed as part of the High-Luminosity LHC (HL-LHC) upgrade. Proof-of-principle tests are currently on-going in CERN's Super Proton Synchrotron (SPS). For the tests, the DQW has three on-cell coaxial HOM couplers per cavity.

Currently, due to SPS space constraints, the HOM coupler is not optimal and a re-design is necessary for HL-LHC. This presentation outlines the coupler re-design, incorporating lessons learnt from manufacture, cold tests and tests in the SPS.

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Session Classification: Design of SRF Cavities and HOM Damping Schemes