

Cold Test Results of Pre-Production PIP-II SSR2 Cavities with High-Power Couplers in the Fermilab Spoke Test Cryostat

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As part of the PIP-II project at Fermilab, a pre-production cryomodule featuring 325 MHz Single Spoke Resonator type 2 (SSR2) superconducting RF cavities is under construction. These SSR2 cavities are fabricated by industry partners and undergo initial cold testing at our collaborating institution, IJCLab in France, utilizing low-power coupler. Subsequently, the cavities are subjected to final qualification at Fermilab, complete with tuner and high-power coupler assemblies. This paper provides an overview of the ongoing efforts dedicated to high-power testing of jacketed SSR2 cavities in the Spoke Test Cryostat (STC) at Fermilab. Performance parameters obtained from these tests are presented, offering valuable insights into the cavities' operational characteristics and readiness for integration into the PIP-II cryomodule.

Footnotes

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