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Superconducting magnet string test for the SIS100 accelerator of FAIR

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The SIS100 accelerator, currently under construction in Darmstadt (Germany), consists of six arc and straight sections. Each of the six cryogenic arc sections comprises fourteen regularly repeating optical cells (lattice). Each standard cell includes two dipole magnets and two quadrupole units integrated in a quadrupole doublet module. The SIS100 String Test technically represents one standard cell of the arc section of the SIS100, terminated by an End Cap and a Bypass Line as a representation of the end of the arc section. The purpose of the SIS100 String Test is to validate all technical systems such as cryogenics, vacuum, interlock and quench detection and investigate their collective behavior. A wide spectrum of tests will be performed during cool down, powering at operational conditions and warm up. Additionally, the experience gained during the SIS100 String Test will be crucial for the installation, commissioning and operation of the SIS100. The planning, installation process and first experimental results of the String Test will be presented.

Footnotes

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Europe

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