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C3Po1G-07 [43]: Design and Construction of Helium Transfer and Distribution System of Cryogenic System II of SSRF

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The new cryogenic system II project is a part of the upgrade of Shanghai Synchrotron Radiation Facility (SSRF), and will construct one 650W/4.2K helium refrigerator including one 60W/2K refrigerator. The new cryogenic system II will provide 2K/4K liquid helium for one 1.5GHz superconducting cavity, also as the backup of the old 650W/4.2K helium cryogenic system I.
This paper focuses on helium transfer and distribution system. This helium transfer and distribution system will transfer liquid helium, gas helium, and liquid nitrogen between 4K refrigerator/2K refrigerator and test facilities/superconducting cavities. The design including flow chart, mechanical design, and layout will be emphatically introduced. Also, major construction progress will be shown.

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