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Sat-Af-Or2-07: 42 T Resistive Magnet Performance and 45 T Design Prospects at CHMFL

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In September 2024, the 42 T resistive magnet at The High Magnetic Field Laboratory of Chinese Academy of Sciences (CHMFL) was successfully commissioned, and in October, it was opened for user experiments. This paper provides a detailed account of the commissioning process and systematically investigates the evolution of critical parameters, including coil voltage and water flow rate, throughout its experimental operation. Our next major construction milestone is a 45 T resistive magnet, we therefore present a comprehensive overview of its envisioned design parameters.

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