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兰州重离子加速器冷却储存环磁场测量系统

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摘要 文章涉及兰州重离子加速器冷却储存环(HIRFL CSR)的磁场测量系统。对霍尔片点测量系统、积分长线圈测量系统和谐波线圈测量系统的构成、控制与获取系统,以及新建设备和探头的结构特点、参数作了详细描述。本测磁系统的精度和重复性完全满足CSR大型高精度磁铁测量的需要,已经完成了对CSR注入线所有二极磁铁和四极磁铁的测量,正在进行其它各类磁铁的测量。

关键词 [磁场测量](#) [霍尔片](#) [积分长线圈](#) [谐波线圈](#) [重复性](#)

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Magnetic Measurement System for Cooling Storage Ring of Heavy Ion Research Facility in Lanzhou

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Abstract Magnetic measurement system is an indispensable part of National Scientific Major-project Cooling Storage Ring of Heavy Ion Research Facility in Lanzhou(HIRFL-CSR). Three measurement systems, Hall probe mapping, integral coils and harmonic coils system were developed. The structure and parameters of main devices were described in details in the paper. And the manufacturing technics and the checking results were also involved. By means of a long time repeat testing, it is proved that the repeatability and stability of the systems match the requirements of CSR. The systems are applying in CSR project now.

Key words [magnetic measurement](#) [Hall probe](#) [integral coil](#) [harmonic coil](#) [repeatability](#)

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