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Wed-Af-Po3.16-11 [28]: Field measurement of a cryogenic permanent magnet undulator at NSRRC

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A PrFeB-based cryogenic permanent magnet undulator (CPMU) is under construction at the Taiwan Photon Source (TPS) to provide high brilliant X-rays for phase II beamlines. The in-vacuum Hall probe measurement system is improved to measure and tune the magnetic field at cryogenic temperature. To ensure the measurement is taken in the magnetic field center, we also develop two methods: point-to-point and off-axis measurements. By tuning the differential adjuster, we can correct the magnetic field errors causing by re-assembly. This paper describes details of improvements in the measurement system, measurement result checking methods, and field tuning methods. Measurement results at cryogenic temperature are also presented.

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