



Contribution ID: 663 Contribution code: WEPM042

Type: **Poster Presentation**

## Pre-study of permanent dipole magnet at NSRRC

*Wednesday, 10 May 2023 16:30 (2 hours)*

A permanent dipole magnet assembled by Sm<sub>2</sub>Co<sub>17</sub> was fabricated and measured at NSRRC. The main magnets were consisted of several small magnet blocks. A simple coil was wound to measure the total flux of permanent magnet. The flux coil was compared and calibrated by the Helmholtz coil using small magnet block. A flux sorting process was implement to obtain more homogeneity magnetic field. A NiFe alloy was used to compensate the magnetic flux fluctuation with temperature of permanent block. These methods were use in the accelerator upgrade in the future. The magnet circuit design, magnet assembly and field measurement results of permanent dipole magnet are presented in this article.

### Funding Agency

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

**Primary author:** JAN, Jyh-Chyuan (National Synchrotron Radiation Research Center)

**Co-authors:** HSU, Yang-Yang (National Synchrotron Radiation Research Center); CHU, Yun-Liang (National Synchrotron Radiation Research Center); CHEN, Chih-Wei (National Synchrotron Radiation Research Center); LIN, Fu-Yuan (National Synchrotron Radiation Research Center); CHUNG, Ting-Yi (National Synchrotron Radiation Research Center); HUANG, Jui-Che (National Synchrotron Radiation Research Center)

**Presenters:** JAN, Jyh-Chyuan (National Synchrotron Radiation Research Center); CHEN, Chih-Wei (National Synchrotron Radiation Research Center); CHUNG, Ting-Yi (National Synchrotron Radiation Research Center); HUANG, Jui-Che (National Synchrotron Radiation Research Center)

**Session Classification:** Wednesday Poster Session

**Track Classification:** MC7: Accelerator Technology and Sustainability: MC7.T09: Room Temperature Magnets