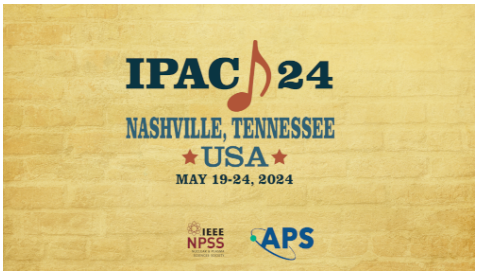

Contribution ID: **1288** Contribution code: **THPS15** Type: **Poster Presentation**

Design and Installation of the Liquid Nitrogen Transfer Line for TPS 15A Beamline Endstation

Thursday, 23 May 2024 16:00 (2 hours)

At Taiwan Photon Source (TPS), the main liquid-nitrogen (LN2) transfer line of length 600 m for beamline endstations was installed in 2015. It formerly supplied LN2 to maximum 24 beamline endstations. Beamline endstation 15A (TPS 15A), of which the aim is to determine 3D crystal structures from micro-scale single crystals and non-ambient conditions. We designed and self-manufactured one LN2 transfer line according to the requirement of TPS 15A, to supply LN2 into the both end station and 50L phase separator. The 50L phase separator was constructed to provide high quality of LN2 and pressure stability to the chiller of double-crystal monochromator (DCM), to prevent the thermal deformation of the crystal. In this paper, we present the design and manufacturing of LN2 pipeline, 50L phase separator and pressure regulator. The heat-load measurement and performance test was also presented and discussed.

Footnotes

Funding Agency

Paper preparation format

LaTeX

Region represented

Asia

Primary author: LIAO, Wun-Rong (National Synchrotron Radiation Research Center)

Co-authors: Dr HSIAO, Feng-Zone (National Synchrotron Radiation Research Center); LI, Hsing-Chieh (National Synchrotron Radiation Research Center); TSAI, Huang-Hsiu (National Synchrotron Radiation Research Center); CHUANG, Ping-Shun (National Synchrotron Radiation Research Center); CHANG, Sheng-Hsiung (National Synchrotron Radiation Research Center); CHIOU, Wen-Song (National Synchrotron Radiation Research Center)

Presenter: TSAI, Huang-Hsiu (National Synchrotron Radiation Research Center)

Session Classification: Thursday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability: MC7.T13 Cryogenics