Current Status of the TPS and its Future Prospects

Kuotung Hsu*, G.H. Luo, Y.C. Liu, Ch. Wang, C.H. Huang, P.C. Chiu, Jenny Chen, and C.C. Kuo

National Synchrotron Radiation Research Center, Hsinchu, 30076, Taiwan

**kuotung@nsrrc.org.tw*

The Taiwan Photon Source (TPS) is a newly deploy 3-GeV third-generation low emittance synchrotron light source located in Hsinchu, Taiwan. Commissioning and machine conditioning of the TPS were done during December 12, 2104 until the second quarter of 2016. Up to 520 mA beam current stored at the storage ring during accelerator commissioning. User service started from September 2016. The machine equips with two superconducting RF cavities and 7 set of sets of in-vacuum undulators and three sets of elliptical polarizing undulator to serve phase I beam lines. The TPS delivery user 300 mA stored beam current from September 2016 and rise to 400 mA in last November. To support more insertion devices running at 500 mA and improve reliability of RF system, a five project to install the third set of SRF system started form 2018. Insertion devices and front-end construction are continue to support phase II and III beam line project which will complete around 2020 and 2023 respectively. Strategic to explorer advantage of the TPS to keep its competitive in terms of research capabilities are addressed. Future development of the accelerator system are also in continue discussion. This report presents status of TPS accelerator system and its future prospects.