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## **Influence of reduced baking time of Taiwan photon source front-end system on dynamic pressure**

*Tuesday, 21 May 2024 16:00 (2 hours)*

The Taiwan photon source (TPS), a synchrotron accelerator at the National Synchrotron Radiation Research Center in Taiwan, is a third-generation accelerator operating at 3 GeV that was designed to create a high energy photon source. The TPS front-end (FE) systems are located between the storage ring and beamline, which was designed to protect the safety of users as well as control experimental requirements. As the FE vacuum pressure influences the storage ring and beamline vacuum pressures, the FE vacuum systems must maintain a low dynamic pressure. Therefore, at the beginning of FE system construction, each FE vacuum system is baked at 200°C for 24 hours. Next, when the FE systems need to be upgraded or maintained lead to vacuum interventions, it must also be baked for 24 hours to recover a low dynamic pressure. However, the 24 hour baking process requires manpower support on-site owing to facility safety in the TPS tunnel. The maintenance of the FE systems takes two duty days. Therefore, reducing baking time is necessary in the TPS facility. The beam cleaning efficiency after reduced baking time has been described in this paper.

### **Footnotes**

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