

Auxiliary Tools for the Taiwan Photon Source Operation

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The auxiliary tool of the Taiwan Photon Source (TPS) is developed to help operators improve the failure analysis ability to shorten the machine downtime. Presently, We have an operating alarm system to assist the accelerator operation, and a home-developed record-analysis tool for beam trip analysis. The part of alarm system, Alarm systems is developed by the use of the Control System Studio (CSS) platform and the Experimental Physics and Industrial Control System (EPICS) channel that gathers machine information and sets high/low warning and fault limits for various signals which can help operators to quickly identify abnormal subsystems. The part of record-analysis tool, Due to the orbit interlock system is one of the most important machine protection systems. It is the fastest and the most preferred system to detect abnormalities to prevent possible damages caused by magnet power supply failures or subsystems failures. In order to monitor electron orbit changes during a beam trip, we developed the “orbit monitoring and recording tool” , the “Turn-By-Turn BPM analysis tool “and the “magnet power supply recording and analysis tool” to assist us in the beam trip analysis.

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