



Contribution ID: 35

Type: **not specified**

OR35 - Experience Acquired from Two Major Incidents at Synchrotron SOLEIL

Monday, 11 September 2023 11:30 (30 minutes)

Synchrotron SOLEIL is the 3rd generation French Synchrotron Radiation light source located south of Paris. It has been in operation since 2007 providing photon beams to 29 beamlines with a maximum intensity of 500 mA, 5000 hours per year. Besides its high overall performance (98.95% beam availability, 139 hours mean time between failure), the SOLEIL accelerators have experienced two major incidents in 2022 and 2023, which had a strong impact on either the user beam quality or availability. The first incident concerned the high voltage charging power supply of a storage ring injection kicker system, that proved challenging to identify leading to several beam instabilities, poor injection rate, and low availability during the week. More recently, a severe overheating of the bending magnets of the Linac-to-Booster transfer occurred due to an accumulation of malfunctions, including the failure of the equipment interlock system. Consequently, three days of user beam were canceled out. This presentation will describe and analyze the causes that led to these incidents, how these crises were handled to deliver quality beam back to users as quickly as possible with minimal short-term risk on equipment integrity and machine reliability. We will conclude with the lessons learned and the series of actions taken to improve our organization and our quality of work to prevent a recurrence of such failures.

Presenter: TOURNIER, Clement (SOLEIL)

Session Classification: Lessons Learned from Unforeseen Events