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Machine Learning @ Soleil

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Artificial Intelligence, Digital Twins, Machine Learning are areas being explored in view of the SOLEIL upgrade.

Experimental data processing, control, online optimization, predictive maintenance become very hot topics and the center of the IT architecture transformation of the synchrotron light source. In this presentation I will give a short overview what has been achieved so far and the perspectives. A few applications for optimizing the accelerators will be shown, but also optimization of the assembly of undulators, smart feedbacks and feedforwards. Digital Twins will be short shown for robotics, anti-collision systems for the beamlines. Facing the data deluge and the growing complexity of the facility, a short roadmap for automation will also be presented for data acquisition, their post processing including the detector side.

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Session Classification: Machine Learning