

# Data Deluge at Synchrotrons

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**Amphithéâtre SOLEIL**

Light Sources and Neutron Sources serve thousands of researchers per year all around the world. Recent improvements in detector speed and light source luminosity and brightness are yielding unprecedented data rates, which exceed most data analysis approaches utilized in past experiments. In order to unlock the tremendous potential for scientific and technological advances that this new generation of facilities and detectors presents, they must be complemented with a new generation of analytical methodologies and computational tools. The growing consensus within light source scientific communities is that scientific insight and discovery at facilities are now being limited by computational and computing capabilities much more than by detector or brightness technology. In order to develop the fastest algorithms and robust codes to address the data deluge, we need to exploit and leverage the resources already existing at large computational facilities or local servers, including the expertise in photon science theory and algorithm development, computer science and high performance computer facilities. Over the last few years we developed a data analysis framework that can work seamlessly in a light and neutron source environment and deal with massive amounts of data. We are test running the frame SPOT at the ALS and collected well above 200,000 datasets. In addition we develop a set of analysis suits that integrate with SPOT, in particular for scattering and scattering analysis such as GIWAXS and GISAXS. I will present some real-time data analysis approached, including some missed and some successes.



**Ce séminaire sera suivi d'une pause café**

**Formalités d'entrée :** accès libre dans l'amphi du pavillon d'Accueil.

Si la manifestation a lieu dans le Grand Amphi SOLEIL du Bâtiment Central merci de vous munir d'une pièce d'identité

(à échanger à l'accueil contre un badge d'accès)

**SYNCHROTRON SOLEIL**

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