CRISTAL: Cristallography and structure of condensed matter

SOLEIL staff:
S. Ravy (Head of beamline)
E. Elkaïm (Scientist)
P. Fertey (Scientist)
F. Legrand (Technical assistant)
C. Laulhé (Assistant professor)

Areas of application, instrumentation and methodologies used
Energy range: 4-30 keV
CRISTAL is a diffraction beamline dedicated to the study of **single crystals** and **powders**.
Sample environment: - Pressure – temperature - laser irradiation.

Major disciplines

Powder diffraction (High-angular resolution for *ab initio* structure determination / high-Q-resolution measurements for determining pair distribution function (PDF) / solid-solid phase transition kinetics)
Single-crystal diffraction (Determination of structure/incommensurable crystals, quasicrystals/ thin films / diffuse scattering / resonant X-ray diffraction)
Determination of electron density (low temperature (30 K) and high-Q-resolution diffraction)
Coherent diffraction (X-ray coherent diffraction / submicron objects and defects studies/ Ptychography)
Time-resolved pump-probe diffraction (pump: 800 nm, 25fs laser pulses // probe : 10 to 70 ps X-ray pulses).