"Being able to process synchrotron data with the same software that I use in the home-lab for my D8 VENTURE has made my work so much more efficient! APEX3 delivers superb data and is easy to use even for challenging samples and time-sensitive experiments."

Dr. Przemylsaw Dera,
Hawaii Institute of Geophysics & Planetology

Case Study 2
Processing Synchrotron Data with APEX3

Executive Summary

APEX3 supports common diffraction image data formats that are produced by custom-built synchrotron beamline instruments. Proven algorithms and convenient graphical user interfaces that are used in thousands of home-labs are now available for beamline data evaluation.

- Fast and efficient algorithms
- Best data quality
- Intuitive and easy to use graphical user interface

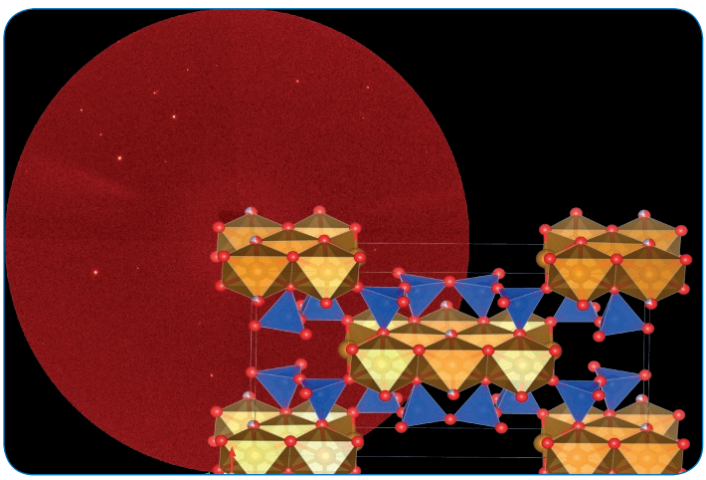
Challenges

The unquestionable benefits of synchrotron facilities for X-ray structure determination are the ultra-high X-ray intensity, tuneable wavelength and high beam quality, including small focal size.

The biggest challenge is that most of the beamlines are very custom installations with local software implementations that lack both, features and the big user base of commercial home-lab instrumentation. Users often are unfamiliar with the synchrotron software and thus face a steep learning curve.

Product Benefits

Being able to rely on APEX3, the same software used in the home-lab makes the workflow for synchrotron data much more efficient. Feeling assured that the software will provide me the best data possible gives me peace of mind and lets me focus on my research.



Processing MAR CCD detector data collected on a grunerite amphibole sample at beamline 13BM-C of the Advanced Photon Source (APS)

Several data runs, collected on custom 6-circle diffractometer at ambient pressure and in a diamond anvil cell were processed using APEX3's Convert Images plugin adding missing header items in the process. Data processed well and the structure successfully solved and refined with excellent reliability criteria. The process was fast and efficient and provided the convenience of using well established software with an easy to use graphical interface.