Invited Lecture

How to harness In Kα radiation from a METALJET for high resolution experiments

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The MetalJet source provides new available Kα radiation wavelength for use in X-ray diffraction experiments.[1] Here we want to demonstrate the application of using indium Kα radiation in independent atom model refinement, as well as approaches using aspherical atomic form factors. Results vary strongly with the employed detector as the energy cut-off of the Eiger2 CdTe provides a solution to a unique energy contamination problem of the MetalJet In radiation, which the Photon III detector cannot provide.[2]

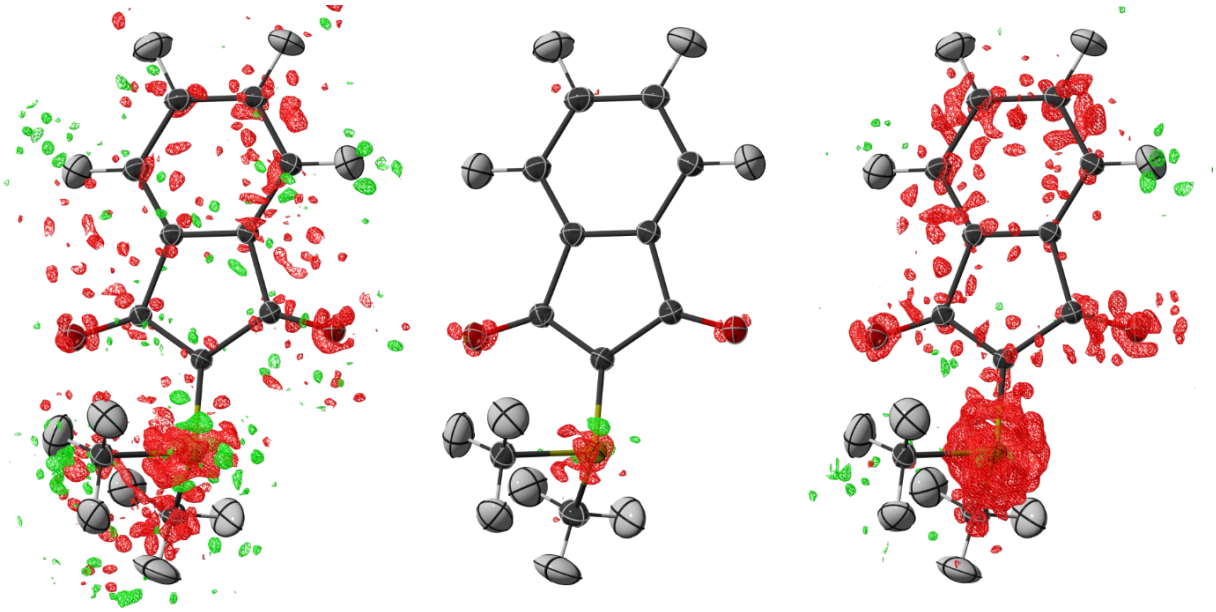

Figure 1. Difference electron densities at isolevels ±0.05 e Å^{-3} for the Hirshfeld atom refinements of **YLID** for the data obtained on the indium/Photon III (left), indium/Eiger2 CdTe (centre) and silver/Photon III (right) setups. Atomic displacement parameters are depicted at the 50 % probability level.

[1] Nico Graw, Paul Niklas Ruth, Tobias Ernemann, Regine Herbst-Irmer, Dietmar Stalke *Indium Kα radiation from MetalJet X-ray source: The long way to a successful charge density investigation, J. Appl. Cryst*. **2023**, *56*, 1315-1321; https://doi.org/10.1107/S1600576723007203.

[2] Paul Niklas Ruth, Nico Graw, Tobias Ernemann, Regine Herbst-Irmer, Dietmar Stalke *Indium Kα radiation from MetalJet X-ray source: Comparison of the Eiger2 CdTe and Photon III detectors*, J. *Appl. Cryst*. **2023**, *56*, 1322-1329; https://doi.org/10.1107/S1600576723007215.