

## Charge density distribution in RuAl<sub>2</sub>

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The intermetallic compound RuAl<sub>2</sub> deserves special interest as it is an unconventional semiconductor with a small band gap, but at the same time represents a parent structure of binary Nowotny chimney ladder phases. An experimental charge density analysis should help to provide deeper insight for this peculiar compound. The shortest X-ray wavelengths generally available with laboratory instruments are Ag-K $\alpha$  or Ag-K $\beta$ , but both are close to the absorption edge of Ruthenium. Thus we had to apply Synchrotron radiation at higher energies. High resolution data were collected at beamline ID-15-B of the Advanced Photon Source at Argonne National Lab. Though diffraction data looked very promising special effort was needed with integration of the images as many reflections are systematically weak. Finally the special approach implemented in EVAL-15 program gave excellent results which allowed for multipole refinement and detailed topological analysis. A faint structural feature was detected which needs special interpretation.