## Application of Machine Learning to X-ray Scattering Data Processing

Monday 23 September 2024 16:54 (2 minutes)

X-ray scattering is one of the main techniques used to characterise the structure of nanomaterials. Extraction of real-space structures from X-ray scattering patterns needs to be carried out through the use of scattering formulae fitting, which has the disadvantages of being time-consuming, requiring specialised knowledge, and initial parameter estimation. In the face of a large amount of experimental data, especially synchrotron radiation experimental data dealing with increasing luminous flux, the existing frontal analysis methods are not able to tone track the challenges of real-time analysis. We Use machine learning methods, relevant structural information can be quickly obtained from scattering experimental data without the introduction of the relevant scattering knowledge.

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