

Microsymposium

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Application of synchrotron powder diffraction to research and issues in mining

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Powder diffraction (PXRD) is an important tool for synergistic synchrotron studies of mining issues. Quantitative phase analysis with powder diffraction often provides basic information required to guide additional studies such as X-ray absorption (XAS) or micro-diffraction (μ -XRD). Elemental speciation in dilute and complex mineralogical systems with X-ray absorption near edge structure (XANES) spectroscopy is critically dependent on high quality phase pure standards, which are generally appraised using PXRD. This talk will examine the powder diffraction capabilities at the CLS, and discuss application of PXRD to mining issues as part of a combined synchrotron approach using examples.

Keywords: synchrotron, powder diffraction, mining