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Medium Energy Spectroscopy (MEX) – The spectroMEX High Resolution Crystal Spectrometer

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The MEX1 beamline high resolution crystal spectrometer, spectroMEX, comprises a Johann-type point-to-point focusing geometry crystal spectrometer employing five spherically bent crystals on a 0.5 m diameter Rowland circle. The primary application of spectroMEX is high energy resolution fluorescence-detected (HERFD) XANES, wherein fluorescence XANES is collected with an energy resolution of the order of the core-hole lifetime broadening. HERFD XANES spectra contain additional spectral information when compared to conventional fluorescence or transmission XANES. spectroMEX also facilitates collection of high quality x-ray emission spectroscopy data, including the weak, but chemically sensitive valence-to-core emission lines (vtc-XES). This talk will describe the spectroMEX spectrometer design, progress to date, and present examples of the new spectroscopic techniques available to synchrotron users employing spectroMEX at the MEX1 beamline.

Level of Expertise

Expert

Presenter Gender

Man

Pronouns

Which facility did you use for your research

Australian Synchrotron

Students Only - Are you interested in AINSE student funding

Do you wish to take part in the Student Poster Slam

Condition of submission

Yes

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