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POS-F50 – Studying Advanced Materials at the REIXS Beamline

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Advanced materials, including: superconductors, light emitting materials and battery materials, play an ever increasing role in society today. Studying these materials is key to reducing overall energy consumption for everyday technology. Soft x-rays have the ideal energy for probing the electronic properties of typical elements in these materials; x-ray absorption spectroscopy (XAS) and x-ray emission spectroscopy (XES) are robust techniques to measure the electronic structure in general. More advanced techniques, resonant inelastic x-ray scattering (RIXS) and resonant soft x-ray scattering (RSXS) are invaluable for studying electron correlations in novel materials. In addition, resonant x-ray reflectometry (RXR) allows one to probe the electronic structure of interfaces in layered materials. The Resonant Elastic and Inelastic X-ray Scattering (REIXS) beamline at the Canadian Light Source (CLS) is a soft x-ray beamline specializing in photon-in/photon-out techniques including those mentioned above. There are many opportunities at REIXS for material scientists wanting to fully explore the electronic properties of their advanced materials. We will showcase the current capabilities offered at REIXS as well as discuss some future advancements.

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