

Commissioning of the High-Resolution Soft X-Ray RIXS at TPS

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The remarkable progress of technical development of resonant inelastic X-ray scattering (RIXS) in the last decade has opened up new opportunities for the studies of quantum materials. A high-resolution and high-efficiency RIXS in the soft X-ray regime is particularly desirable. Recently we have successfully constructed a new soft X-ray RIXS setup at Taiwan Photon Source based on the energy-compensation principle of grating dispersion. The energy-compensation scheme enables a large flux of incident X-rays without sacrificing the combined energy resolution of RIXS. In adopting this concept, we employed two varied-line-spacing gratings incorporated with special benders as the monochromator and the spectrometer, permitting an adjustment of curvature and local profile in an active manner. In this talk, we will present the current status and the commissioning results.

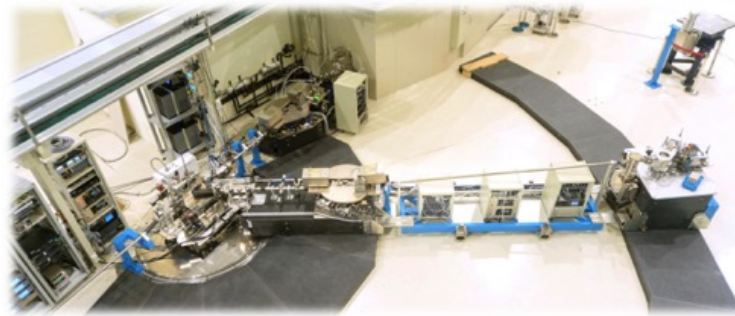


Photo of TPS 41A RIXS monochromemator and spectrometer.