

Status of the soft x-ray resonant scattering beamline at SOLEIL

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A high-flux and micro-focused beamline dedicated to soft x-ray resonant scattering is currently commissioned at SOLEIL. The beamline is located on a 7 m medium length straight section of SOLEIL and will cover the energy range of 50-1,700eV. Two Apple 2 type undulators of 80 mm and 44 mm period length enable to cover the entire energy range in first harmonic. The beamline has two branch lines: One is optimized for soft x-ray inelastic scattering and will serve a newly developed end-station for resonantly excited soft x-ray emission spectroscopy. This instrument combines a state-of-the-art highest spectral resolution (a resolving power in excess of 8000 over the whole energy range) with an unprecedented high acceptance. The second branch line is dedicated to elastic scattering and has two locations for end stations. Two existing soft x-ray diffractometers [1,2] will be complemented by an instrument for scattering of coherent x-rays, which is currently under development.

In this contribution, the status of the beamline project will be presented and first results obtained during the commissioning phase will be presented.

References

[1] M. Sacchi et al., Rev. Sci. Instrum. **74**, 2791 (2003)

[2] N. Jaouen et al., J. Synchrotron Rad. **11**, 353 (2004)

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