

Poster Presentation

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Phase I Beamlines at Taiwan Photon Source

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With rapid advances in the international scientific community as well as increasing demands for bright X-rays from users to facilitate their challenging scientific experiments, the construction of a new synchrotron facility was vital to maintaining National Synchrotron Radiation Research Center in Taiwan to be globally competitive. After conducting numerous assessments with our users, the decision to construct Taiwan Photon Source (TPS) was made at the meeting of Board of Trustee held in 2004 July. This large-scale project will establish, at the current campus of NSRRC, a new, low-emittance, synchrotron light source of circumference 518 m and with an electron beam of energy 3 GeV. TPS is designed to emphasize electron beams of small emittance and great brilliance for generating extremely bright photon beams. The superior characteristics of TPS have opened avenues for novel scientific opportunities and experimental techniques. The advanced techniques of phase-I beamlines include temporally coherent X-ray diffraction, protein microcrystallography, submicron soft X-ray spectroscopy, coherent X-ray scattering, submicron X-ray diffraction, X-ray nanoprobe, and high resolution inelastic soft X-ray scattering. Taking full advantage of the highly brilliant photon source, the seven planned beamline will aim for the forefront of science. These beamlines cover diverse research in physics, chemistry, biology, and material science, in the energy range from soft to hard X-rays for advanced research in spectroscopy, scattering and imaging.

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