
The Cold-Neutron Triple-Axis Spectrometer SIKA at OPAL

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SIKA is a high-flux cold-neutron triple-axis spectrometer built on the cold source CG4 of the 20MW Open Pool Australian Light-water (OPAL) reactor at Australian Nuclear Science and Technology Organization (ANSTO) by Taiwan.^[1] As a state-of-the-art triple-axis spectrometer, SIKA is equipped with a large double-focusing pyrolytic graphite (PG) monochromator, a multiblade PG analyser and a multi-detector system. The design, functions, and capabilities of SIKA are presented. The spin wave excitation of MnF₂, the phonon dispersion of thermoelectric material SeSn,^[2] the spin dynamics of spin glass system (Ni_{0.40}Mn_{0.60})TiO₃^[3] and other experimental data from SIKA are demonstrated as examples of SIKA's capabilities and performance.

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[2] S. Danilkin, G. Deng, et al, (unpublished)

[3] R. S. Solanki, S.-H. Hsieh, C. H. Du, G. Deng, C. W. Wang, J. S. Gardner, H. Tonomoto, T. Kimura, and W. F. Pong, *Phys. Rev. B* **95**, 024425 (2017)