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A Simple X-ray Spectrometer and PC-based Data Acquisition System for Newly Developed X-ray Source Based on Laser Compton Scattering

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摘要 A simple X-ray spectrometer and a PC Based Data Acquisition System(DAS) have been developed newly in Shanghai Institute of Applied Physics(SINAP), Chinese Academy of Sciences(CAS) for the measurement of the X-ray source generated using laser Compton scattering. The system consists of liquid nitrogen cooled high resolution Si(Li) detector, electronics and a DAQ. The Si(Li) detector was designed and made by Center of Advanced Instruments in SINAP, CAS, it allows us to measure X-rays with the energy up to 60 keV and the energy resolution(FWHM) of 184 eV at 5.9 keV. We measured the system uncertainty was 0.2 eV and time drifting of detector was 0.05% both at 5.9 keV. The DAQ was based on Object Oriented software LabVIEW 7.1, it has data on-line analysis and original data saved functions.

关键词

[laser Compton scattering](#) [Si\(Li\) detector](#) [energy resolution](#)

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