

FIRST EXPERIMENTS WITH THE POLARIZED INTERNAL GAS TARGET AT ANKE/COSY

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A Polarized Internal gas Target (PIT) has been developed for the ANKE spectrometer at COSY. After its first installation at the ANKE target position in summer 2005, commissioning studies were carried out. In March 2006, first single polarization measurements with the polarized hydrogen beam from an Atomic Beam Source (ABS) were performed. The beam was injected into a storage cell made from aluminum foil. The data analysis showed that the events from the extended gas target can be clearly identified in the ANKE forward detection system. Using unpolarized nitrogen, the background from the cell walls could be determined as well. The thickness of the gas in the storage cell with the hydrogen atoms in hyperfinestate $|1\rangle$ was measured as $2 \cdot 10^{13}$ atoms/cm². The ABS jet target thickness was $(1.5 \pm 0.1) \cdot 10^{11}$ atoms/cm². In November 2006, the commissioning of a Silicon Tracking Telescope (STT) was successfully finished. In the following beam time in January 2007, a new storage cell from aluminum coated with teflon was used together with the STT. The Lamb-shift polarimeter (LSP) was mounted below the target chamber to allow online tuning of the transition units and monitoring of the ABS jet polarization. A first double-polarized experiment was performed, the results will be presented.