Upgrades and Operational Experience and Data Collection with the Polarized Hydrogen Jet Target at RHIC

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This The RHIC Polarized Hydrogen Jet Target uses elastic scattering of the RHIC polarized proton beams from the target protons in the Coulomb nuclear interference region to measure the RHIC beam polarization. The data acquisition system in 2006 read out the full waveforms from silicon detectors observing the recoil protons and provided monitoring of the data as it was acquired. A remotely operated CCD camera with special filters was mounted transversely to measure the light emanating from the proton beam interacting with the Jet beam. The aim is to measure beam position and emitance using visual light as well as using a spectrometer to measure the molecular Hydrogen contamination by looking at the excitation light from both H and H_2.

The operational experience with the jet during the 2006 polarized proton run will be discussed and a sample of the online data capabilities will be presented. The jet collected data with the Blue and Yellow beams separately at 100 and 31.2 GeV beam energies respectively.