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Polarized proton solid target for $\vec{p}$+^{6}He elastic scattering experiment SATOSHI SAKAGUCHI, TAKASHI WAKUI, TOMOHIRO UESAKA, CNS University of Tokyo, HIDEYUKI SAKAI, CNS University of Tokyo; University of Tokyo, R388 COLLABORATION — Recently, structures of unstable nuclei have been actively studied with radioactive nuclear beams. However measurement of spin polarization observables has not been possible in the research of unstable nuclei, because of the lack of polarized probe which is applicable for RI beam experiments. Due to the situations above, we have constructed a spin polarized proton solid target specialized for RI beam experiments. The target makes use of spontaneous electron alignment in photo-excited aromatic molecule, while ordinary polarized targets are based on Boltzmann polarization in high magnetic field. Reducing the magnetic field needed for polarization, our technique makes it possible to detect low energy recoiled protons in the scattering experiments under inverse kinematics condition. In this talk, recent progress and present situation of the target are reported. A radioactive beam experiment using this target is planned on July, 2005. In this experiment, we measure the vector analyzing power of the elastic scattering of ^{6}He and polarized proton. Results obtained in this experiment will be reported as well.

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