

Systematic measurements of discrepancy in pd breakup cross section at 250 MeV

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 Beam tuning :0.5 days
 Tuning of Liquid D₂/H₂ target :0.5 days
 Measurement of ²H(p, pp) n reaction's σ :4.5 days
 Measurement of ²H(p, p) pn reaction's σ :2.0 days
 Calibration of absolute cross section :0.5 days
 Total :8.0 days

Ring : WS course (LAS + GR)

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Investigation of three-nucleon forces (3NF) is a fundamental subject in nuclear physics. Strength of 2π -exchange 3NF (SR3NF) is one of the candidates for the origin of the discrepancy. We have already found some candidates for signs of SR3NF, that is, disagreements between experiments and calculations in pd and nd scattering cross section at $E_N = 250$ MeV and in pd breakup cross section at $E_{\bar{p}} = 247$ MeV, experimentally. Disagreement in pd breakup cross section at intermediate energy was found first in our previous inclusive ${}^2\text{H}(p, p_1)pn$ experiment. We propose, therefore, microscopic and systematic measurements of pd breakup cross section at $E_p = 250$ MeV. First, we will obtain a data set for the pd breakup cross section. Obtained data set will show clearly the feature of the discrepancy in pd breakup cross section. The data set will be used for the microscopic calculation of the pd breakup cross section.