Performance Evaluation of Neutron Polarimeter NPOL

SHUMPEI NOJI, KENJIRO MIKI — A high performance neutron polarimeter NPOL has been constructed for the measurement of polarization correlation function for the \((d, pn[1S_0])\) reaction for the test of EPR paradox in a system of unlike fermions. The NPOL system consists of 12 planes of two-dimensional position-sensitive neutron detectors with a size of \(60 \times 60 \times 3.0 \text{ cm}^3\). Neutron polarization is determined from the azimuthal distribution of the elastic \(\vec{n} + p\) scattering in the scintillator. The effective analyzing power of NPOL have been calibrated by using the polarized neutrons from the \(^6\text{Li}(d, n)\text{X}\) reaction at \(T_d = 270\) MeV. We will report the effective analyzing power and the double scattering efficiency.