

Study of hadron properties modification in nuclear matter by means of scattered protons polarization measurement in (p, 2p) reaction on S-shells of nuclei  $He^4$ ,  $Li^6$ ,  $C^{12}$  and  $Ca^{40}$  on the 1GeV PNPI proton beam

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The polarization of secondary protons from the (p, 2p) reaction induced by 1 GeV protons on S-shells of  $He^4$ ,  $Li^6$ ,  $C^{12}$  and  $Ca^{40}$  nuclei was measured in a kinematically complete experiment. By using a two-arm magnetic spectrometer, two secondary protons from this reaction were recorded in coincidence at unequal scattering angles of 17.1-25.1 and 53.2-59.7 degrees, respectively, over a range of the recoil-nucleus momentum of up to 150MeV/c. It was found that the measured polarization of either secondary proton is less than that observed in the free elastic proton-proton scattering. The magnitude of this difference is determined by the mean binding energy of S-shell protons rather than by the effective nuclear density. This result is in agreement with the recent measurements performed at RCNP with 392MeV proton beam. Prospects to extend the experimental program to the direct  $C_{nn}$  measurement in the same reaction is also discussed.