Fragmentation of tensor polarized deuterons into cumulative hadrons.

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Abstract

The results obtained in the experiments of polarized and unpolarized deuterons fragmentation into cumulative (subthreshold) hadrons are discussed. The new experimental data for polarization observables in the reactions of polarized deuteron fragmentation into pions and protons is presented. This data together with other data on polarization observables in cumulative particle production [1,2,3] are compared with calculation based on nucleon model of deuteron. It is shown, that analyzing powers (T_{20} and A_{yy}) is sensitive to the deuteron spin structure at short internucleon distances and can not be described by any commonly known deuteron wave function . It is interpretated as a strong indication on manifistation of non-nucleon degrees of freedom in deuteron wave function.

(1) S.V.Afanasiev et al., Nucl.Phys., A 625, p.817, 1997.

(2) S.V.Afanasiev et al., Phys.Lett., B 434, p.21, 1998.

(3) S.V.Afanasiev et al., Phys.Lett., B 445, p.14, 1998.