

Spin Effects Correlated with 6q-Component in the Deuteron

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Experiments performed at the polarized deuteron beam with momentum up to 9 GeV/c revealed strong spin effects in fragmentation of tensor polarized deuterons into high momentum pions. The tensor analyzing power A_{yy} in the reaction $A(d,\pi)X$ demonstrates a threshold behavior, it shows a linear rise when pions are produced in region of the invariant variable $x_c > 1$ and the pion transverse momentum P_T exceeds 0.4 GeV/c. The A_{yy} – threshold behavior is similar to A_N in $p(\uparrow)p \rightarrow \pi X$ apart from visibly lower position of P_T – threshold. A counterpart of x_F variable in case of nucleus fragmentation, x_c , exceeds 1 if pion is produced on strongly correlated nucleon pair (i.e. fragmenting mass exceeds m_N). The latter can be interpreted as 6q-component in the deuteron wave function at short internucleonic distances. A large contribution of D-wave ($L=2$) in deuteron core region means that the 6q-configuration carries an appropriate high angular momentum. One can assume that the distinctive P_T dependence of A_{yy} in $d \rightarrow \pi$ fragmentation would be explained in the framework of Sivers mechanism applied to 6q-system.