

XVth Quark Confinement and the Hadron Spectrum



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Study of the sub-leading twist GTMD $E_{21}^\nu(x, p_\perp, \Delta_\perp, \theta)$ for proton in light-front quark-diquark model.

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In this work, we study the generalized transverse momentum dependent distribution (GTMD) $E_{21}^\nu(x, p_\perp, \Delta_\perp, \theta)$ for proton using light-front quark-diquark (LFQDM) model. We construct the $E_{21}^\nu(x, p_\perp, \Delta_\perp, \theta)$ GTMD using the GTMD overlap equation in light-front wave functions obtained from the GTMD correlator with Dirac matrix structure $\Gamma = 1$, in both situations of scalar and vector diquark. Taking two variables at a time while holding the other variables constant, the 3-dimensional plots obtained from $E_{21}^\nu(x, p_\perp, \Delta_\perp, \theta)$ GTMD have been analyzed.

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