Pion Boer-Mulders function

Saturday, 27 April 2024 14:40 (20)

The leading-twist transverse momentum dependent distribution functions (TMDs) of the Pion, the unpolarized TMD and the transversely polarized Boer-Mulders function, were predicted by using a symmetry-preserving contact interaction (SCI) based on Dyson-Schwinger equations (DSEs). To account for the non-zero Boer-Mulders function, arising from the final state interaction between the quark and antiquark, one gluon exchange approximation was employed. The calculations were completed by using both Feynman diagram and pion light front wave functions. Finally, the comparison of different model calculations was performed accompanied by a discussion on the model-independent positivity relation constraining unpolrized TMD and Boer-Mulders function.

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