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Going to the light front with contour deformations

Monday, 31 July 2023 16:45 (25 minutes)

I will discuss a new method to compute light-front wave functions and parton distributions using contour deformations. After solving the two-body Bethe-Salpeter equation of a scalar theory, the projection onto the light front is done through a combination of contour deformations and analytic continuation methods. The resulting light-front wave functions and distribution amplitudes are in agreement with the Nakanishi method frequently used in the literature. To make contact with QCD, we studied several extensions towards unequal-mass systems and complex conjugate propagator poles, and first calculations of TMDs using contour deformations are underway.

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