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SÉMINAIRE de PHYSIQUE des PARTICULES

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Dual parametrization of GPDs vs the Mellin Barnes transform approach and the J=0 fixed pole saga

Résumé :
The dual parametrization of generalized parton distributions (GPDs) and the Mellin-Barnes integral approach represent two frameworks for handling the double partial wave expansion of GPDs in the conformal partial waves and in the cross-channel SO(3) partial waves. We explicitly show the complete equivalence of these two independently developed GPD representations. This provides additional insight into the GPD properties and their physical interpretation. We discuss the relation between the J=0 fixed pole contribution into the Compton scattering amplitude and the D-term form factor. We argue that in the Bjorken limit the J=0 fixed pole universality hypothesis of S. Brodsky is equivalent to the conjecture that the D-term form factor is given by the inverse moment sum rule. This implies that the D-term is an inherent part of the corresponding GPD. We also briefly discuss applications for GPD modeling and map the phenomenologically successful Kumericki-Mueller GPD model to the dual parametrization framework.

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11:00

Salle de Conference