Contribution ID: **475** Type: **Parallel**

Generalized dispersion relations, primal construction and bounds on glueball scattering

Tuesday 8 July 2025 17:50 (20 minutes)

We derive a family of generalized dispersion relations with new integration kernels, and use them to bootstrap the amplitudes with full unitarity and analyticity systematically employed. These dispersion relations, combined with the primal construction method, can be used to analyze the interplay between the Regge behavior of amplitudes and low-energy scattering data. As an illustrating example, we apply this framework to constrain glueball scattering amplitudes using a generalized ansatz that accounts for bound-state poles in partial waves.

Secondary track

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Session Classification: T10

Track Classification: T10 - Quantum Field and String Theory