## Phenomenology 2025 Symposium



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## Solving Contact Term Ambiguities for Massive Helicity Amplitudes

Tuesday 20 May 2025 15:15 (15 minutes)

Recursive constructions in amplitudes are a strong feature that requires careful analytic continuation with momentum shift to yield the full, correct, physical amplitudes. If not done systematically, an undetermined contact term would arise. We study the All-Line Transverse (ALT) shift, which we developed for on-shell recursion of amplitudes for particles of any mass. Our method allows for a nice and clean determination of the constructibility of the underlying theory. We apply the shift to the QED, electroweak theory, and higher-spin Compton scattering. The ALT shift framework allows consistent treatment in dealing with contact term ambiguities for renormalizable massive and massless theories, which we show can be useful in studying real-world amplitudes with massive spinors.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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Session Classification: New Developments in Theory

Track Classification: New Developments in Theory