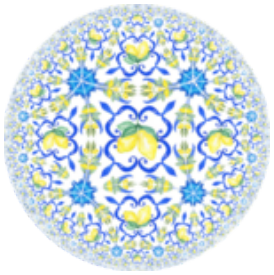

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Carrollian Amplitudes and Holographic Correlators in AdS3/CFT2

Monday 16 June 2025 16:00 (30 minutes)

With the new notions of flat holography introduced in recent years, there has been increased interest in relating the new formalisms to the flat space limit of AdS/CFT. We study Carrollian amplitudes of massless scalars in (1+2) Minkowski space. Using the prescription recently shown by Alday et al. [1] originally designed for the AdS4 Witten diagrams, we show that AdS3 Witten diagrams in position space in the flat space limit reduce to Carrollian amplitudes. The flat space limit in the bulk is implemented by the Carrollian limit at the boundary. Focusing on four-point correlators with contact and exchange diagrams, we show that the Carrollian limit makes the universality of the bulk point singularity manifest upon performing analytic continuation to the Lorentzian signature of the boundary correlators. Unlike four-point Carrollian amplitudes in (1+3) dimensions, the (1+2) dimensional ones are non-distributional, having analytic properties simpler than the AdS correlators. We also observe for the first time a double copy structure of Carrollian amplitudes.

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