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## Carrollian Amplitudes from the Flat Limit of AdS Witten Diagrams

Tuesday 3 September 2024 10:00 (30 minutes)

Carrollian holography aims to express gravity in four-dimensional asymptotically flat spacetime in terms of a dual three-dimensional Carrollian CFT living at null infinity. Carrollian amplitudes are massless scattering amplitudes written in position space which can be re-interpreted as correlators in a putative dual Carrollian CFT. I will review the properties of these amplitudes and argue that they are the natural objects obtained in the flat limit of boundary correlators in AdS computed via Witten diagrams. I will show that the flat limit in the bulk of AdS implies a Carrollian limit in the boundary CFT. The flat limit procedure is entirely taken in position space using Bondi coordinates in the bulk, which allows to keep track of the Carrollian limit taking place at the boundary. Notably, the kinematic constraints on the AdS correlators, such as the bulk-point singularity, emerge naturally in the Carrollian limit and do not have to be imposed a priori.

## Link to publication (if applicable)

https://link.springer.com/article/10.1007/JHEP05(2024)012

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