

Regge conformal blocks from the Rindler-AdS black hole and the pole-skipping phenomena

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We study a holographic construction of conformal blocks in the Regge limit of four-point scalar correlation functions by using coordinates of the two-sided Rindler-AdS black hole. As a generalization of geodesic Witten diagrams, we construct diagrams with four external scalar fields in the Rindler-AdS black hole by integrating over two half-geodesics between the centers of Penrose diagrams and points at the AdS boundary. We demonstrate that late-time behaviors of the diagrams coincide with the Regge behaviors of conformal blocks. We also point out their relevance with the pole-skipping phenomena by showing that the near-horizon analysis of symmetric traceless fields with any integer spin in the Rindler-AdS black hole can capture the Regge behaviors of conformal blocks.

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