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## AdS\_3 Black Holes Double Copy from Mini-Twistor space

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In flat space, it is well understood how to obtain gravity by "squaring" gauge theories through the double copy. This holds for scattering amplitudes and classical solutions (in coordinate and twistor space). In the past few years, it was realized that the Penrose transform explains the existence of a classical double copy and that this realization can be extended to 3d spacetimes for wave solutions. In this talk, I will show a novel curved space double copy construction. By using cohomology class representatives in Mini-Tiwistor space, I will show that the double copy also holds for 3d warped black holes that are solutions of Topologically Massive Gravity. This requires a setup where the black holes are viewed as exact perturbations around AdS\_3 with length L=3/m (m=mass of graviton). Finally, I will show a byproduct of this formalism that allows the construction of a double copy for boost eigenstates that arise in Celestial Holography.

## Link to publication (if applicable)

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