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ICTS String Seminar

Title	:	BMS symmetry of celestial OPE
Speaker	:	Shamik Banerjee (IOP, Bhubaneswar)
Date	:	Wednesday, April 29, 2020
Time		03:00 pm

Abstract : In this talk, we study the BMS symmetry of the celestial OPE of two positive helicity gravitons in Einstein theory in four dimensions. The celestial OPE is obtained by Mellin transforming the scattering amplitude in the (holomorphic) collinear limit. The collinear limit at leading order gives the singular term of the celestial OPE. We compute the first subleading correction to the OPE by analysing the four graviton scattering amplitude directly in Mellin space. The subleading term can be written as a linear combination of BMS descendants with the OPE coefficients determined by BMS algebra and the coefficient of the leading term in the OPE. This can be done by defining a suitable BMS primary state. We find that among the descendants, which appear at the first subleading order, there is one which is created by holomorphic supertranslation with a simple pole on the celestial sphere.

This talk is based on arxiv.org/abs/2002.00975
(https://doi.org/10.1007/JHEP04(2020)130)

ICTS virtual seminar	:	Please register at https://docs.google.com/forms/d/e/1FAIpQLSf0jLgoqiOgDnxbEBGiuIWiOmh9WX8caH-pr13qDBZOO91lmg/viewform
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Recordings of past talks can be found here:
https://www.youtube.com/channel/UCw9LdPQ5t7Q7muD0qzn70TA