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Department of Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

Celestial w_{1+\infty} Algebra and Self-Dual Gravity

(Zoom Seminar)

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Date: February 14, 2022

Time: 6.00 PM IST

Zoom link shall be shared separately

Recently it was shown that by a relatively simple redefinition, the algebra of soft operators on the celestial sphere can be recognized as a w-algebra at tree level. A natural question to ask is whether this classical algebra gets deformed at the quantum level. In this talk I will first review some of the basics of celestial holography and the algebra of soft operators, in particular soft gravitons, on the celestial sphere. I will then describe how one can show explicitly in self-dual gravity, where the set of scattering amplitudes is finite, that the algebra remains uncorrected in quantum self-dual gravity.

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