Contribution ID: **4** Type: **Student Talks**

Carrollian and celestial spaces at infinity

Sunday, 6 February 2022 21:00 (20 minutes)

I will discuss how the geometry of the asymptotic infinities of 4-dimensional Minkowski spacetime is captured by homogeneous spaces of the Poincaré group. In addition to the blowups of spatial (Spi) and timelike (Ti) infinities a la Ashtekar-Hansen, which are (pseudo-)carrollian geometries, this construction naturally leads to a novel space Ni that fibers over scri and is equipped with a doubly-carrollian structure. All these spaces embed into a 6-dimensional pseudo-euclidean space of signature (-,-,+,+,+,+), which generalises a similar construction for Minkowski space by Penrose and Rindler. Finally, I will discuss how these geometries can be made dynamical via a gauging procedure.

Presenter: HAVE, Emil

Track Classification: Student Talks