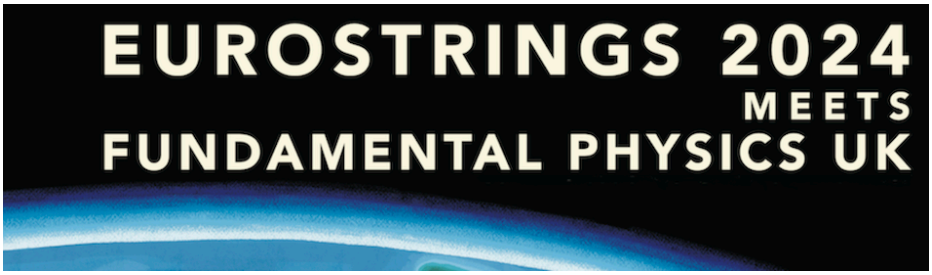

Contribution ID: **126** Type: **Talk in parallel session**

Entanglement Rényi entropies in celestial holography

Friday 6 September 2024 15:10 (20 minutes)

Celestial holography is the conjecture that scattering amplitudes in (d+2)-dimensional asymptotically flat spacetimes are dual to correlators of a d-dimensional conformal field theory, called the celestial CFT (CCFT). In CFT we can calculate sub-region entanglement Rényi entropies (EREs) from correlators of twist operators, via the replica trick. We argue that CCFT twist operators are holographically dual to cosmic strings or cosmic branes in the (d+2)-dimensional spacetime, and that their correlators are holographically dual to the (d+2)-dimensional partition function in the presence of these cosmic branes. We compute the EREs of a spherical region of the CCFT's conformal vacuum, finding the form dictated by conformal symmetry.

Link to publication (if applicable)

Author: RODGERS, Ronnie

Co-authors: Dr O'BANNON, Andy (SUNY Old Westbury); Dr CAPONE, Federico (Friedrich-Schiller-Universität Jena); Dr THAKUR, Somyadip (Hanyang University)

Presenter: RODGERS, Ronnie

Session Classification: Parallel sessions

Track Classification: Holography (flat) 3