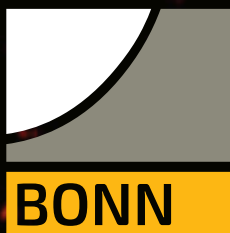


UNIVERSITÄT **BONN**



Bethe Center for
Theoretical Physics

Bethe Lecture Series

Introduction to Celestial Holography

March 10 - 14, 2025 Bonn, Germany

Ana-Maria Raclariu (King's College London)

These lectures will review recent developments surrounding the infrared sector of gravity in (3+1)-dimensional asymptotically flat spacetimes (AFS). The first part will focus on the relation between asymptotic symmetry algebras, memory effects and soft theorems. I will show how this relation extends to all orders in a low-energy or asymptotic expansion revealing an infinity of higher-spin charges generating a w -infinity algebra on the gravitational phase space. In the second part I will discuss aspects of 2-dimensional "celestial" conformal field theories proposed to provide a holographic description of gravitational scattering. In particular I will explain the relation between the phase space symmetries above and 2d chiral algebras. Time permitting, I will discuss how many of these features arise in a suitable limit of the AdS/CFT correspondence.

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Additional information and application form:

<https://indico.hiskp.uni-bonn.de/event/820/>

