

Abstract

I will display how one can build unitary representations of the 3D BMS algebra and its higher-spin extensions using induced representations as a guide. They naturally emerge from an ultrarelativistic limit of highest-weight representations of Virasoro and W algebras, which is to be contrasted with non-relativistic limits that typically give non-unitary representations. I will also show that higher spins make this distinction even sharper, since ultrarelativistic and non-relativistic limits of W algebras differ in the structure of their non-linear terms. The whole construction is supported by the precise matching between vacuum characters and one-loop (higher-spin) partition functions in flat space.