

The BMS group: an overview

I will give an overview of the BMS group, the asymptotic symmetry group of asymptotically flat spacetimes, and discuss why it has raised a lot of interest recently in the high energy community. The talk will be both an introduction to what we already know about it and a brief discussion of the still unsettled problem of asymptotics of higher dimensional spacetimes. In doing so I'll cover some subtle aspects concerning the BMS group in four dimensions, including the debate on the proper definition of asymptotic flatness and the charges associated to BMS supertranslations and superrotations. If time permits I will give an idea of how the BMS transformations are related to Weinberg soft theorems and to the problem of IR divergences in quantum gauge theories.

Federico Capone

PhD student in theoretical physics at the University of Southampton - STAG Research Center