

# Fundamental physics in the cosmos: The early, the large and the dark Universe



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**Fundamental physics in the cosmos:  
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## BMS4 at spatial infinity

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A few years ago Strominger argued that the BMS4 algebra, usually defined at null infinity, should be regarded as a true symmetry of gravitational evolution of asymptotically flat space-times. This implies the existence of an infinite tower of conserved quantities and brings new insight to various problems like gravitational scattering or black-holes evaporation. In this talk, I will show how BMS4 algebra arises as a symmetry at spatial infinity and prove the associated conservation laws conjectured by Strominger

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