

Cosmology and Geometry at the boundary - Lecture 2

Tuesday, 13 April 2021 11:00 (2 hours)

Cosmological observables, such as temperature fluctuations in the CMB and density fluctuations in the distribution of galaxies, can be traced back at the end of inflation where they are encoded in quantum correlations, and the wavefunction of the universe which generates them, at a space-like boundary of a quasi-dS space-time. These lectures will focus on a novel approach to construct the wavefunction of the universe from boundary data only and extract from them physical informations. We will learn about its analytic structure, the interpretation of the singularity coefficients as physical processes, including scattering processes in flat-space, as well as a first-principle formulation in terms of combinatorial-geometrical objects which, together to provide new computational tools, provide a window on the basic rules behind cosmological processes.

Primary author: BENINCASA, Paolo (Niels Bohr International Academy, IFT Madrid)

Presenter: BENINCASA, Paolo (Niels Bohr International Academy, IFT Madrid)