Analysis Seminar

Cosmological Polytopes

By

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Abstract: A cosmological polytope is a lattice polytope introduced by Arkani-Hamed, Benincasa, and Postnikov in their study of the wave function of the universe in a class of cosmological models. More concretely, they construct a cosmological polytope for any Feynman diagram, i.e. an undirected graph.
In this talk, I will report on a combinatorial study of these polytopes. This includes a complete description of their faces, the identification of minimal faces that are not simplices, and a computation of the number of faces in specific instances. If time permits I will also talk about a recent result of Juhnke-Kubitzke, Solus, and Venturello pertaining to unimodular triangulations of these polytopes.
Based on joint work with Leonid Monin.

Date: Thursday, April 13, 2023
Time: 17:45-18:45, GMT+3
Place: Zoom

To request the event link, please send a message to goncha@fen.bilkent.edu.tr