Application of the eigenfunctions of the Dirac operator on spheres to de Sitter QFT

Wednesday, 18 December 2019 17:00 (30 minutes)

Studying field theory in de Sitter spacetime is important because of its relevance to inflationary cosmology. Ndimensional de Sitter space can be obtained by analytic continuation of the N-sphere. In this talk, I will discuss how one can construct spinor fields in de Sitter spacetime by analytically continuing the eigenfunctions of the Dirac operator on the N-dimensional sphere. Furthermore, I will explain how to obtain mode expansions for the free Dirac field operator and discuss how these modes are connected with unitary SO(N,1) representations.

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