



Contribution ID: 6

Type: **not specified**

## Boundary-induced effects for the scalar current density in de Sitter spacetime with compact dimensions

*Saturday 16 September 2023 13:00 (30 minutes)*

The vacuum expectation value of the current density for a charged scalar field with general curvature coupling is investigated in locally de Sitter spacetime with toroidally compactified spatial dimensions and in the presence of boundaries. In addition, the presence of a classical constant gauge field is assumed. General quasiperiodic boundary conditions are imposed along compact dimensions and on the boundaries the field obeys Robin conditions. For the Bunch-Davies vacuum state the contribution of the boundaries is separated in the total current density and its behavior is studied in various asymptotic regions.

**Authors:** Prof. SAHARIAN, Aram (Yerevan State University ); SIMONYAN, David (Yerevan State University)

**Presenter:** SIMONYAN, David (Yerevan State University)