
Contribution ID: **4** Type: **not specified**

# θ-vacua, asymmetric Hawking radiation and baryogenesis from primordial black holes

*Wednesday, 19 June 2024 13:30 (30 minutes)*

In empty Minkowski space, the CP-violating electroweak θ-term can be rotated away by the redefinition of quark and lepton states by anomalous B+L phase transformations. I will argue this is no longer true in black hole spacetime, where non-zero θ-term remains on the black hole horizon. This boundary term acts as a source of CP-asymmetric Hawking radiation. The phenomenon may be responsible for cosmological baryogenesis from primordial black holes.

**Primary author:** Prof. KOBAKHIDZE, Archil (The University of Sydney)

**Presenter:** Prof. KOBAKHIDZE, Archil (The University of Sydney)

**Session Classification:** Session 11