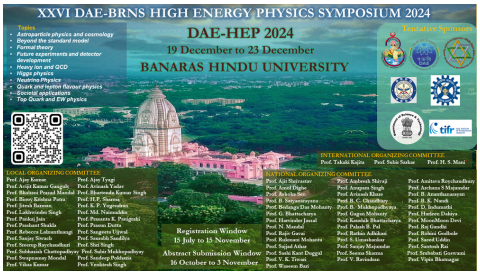

Contribution ID: **463** Type: **Postar**

Thermodynamic curvature of charged Gauss-Bonnet black holes with AdS2 horizons

In this paper, we study the phase structure and thermodynamic curvature of charged topological Gauss-Bonnet black holes in d-dimensional anti-de Sitter spacetime. By calculating the scalar curvature of the Ruppeiner geometry and analyzing its behaviour near the phase transition, we can gain empirical insights of the microstructure characteristics of the system based on the sign and magnitude of thermodynamic curvature. At low temperature, we compute thermodynamic curvature for charged Gauss-Bonnet black holes with AdS_2 near horizon geometry, and containing a zero temperature horizon radius r_h, in a spacetime which asymptotically approaches AdS_d . Both attraction and repulsion-dominated regions arise, generally governed by the black hole's electric charge, Gauss-Bonnet coupling, and horizon radius. The curvature is computed through a semi-classical analysis, as well as with quantum fluctuations included.

Field of contribution

Theory

Authors: Dr BHAMIDIPATI, Chandrasekhar (Indian Institute of Technology Bhubaneswar); MUKHERJEE, Poulami (Indian Institute of Technology Bhubaneswar)

Presenter: MUKHERJEE, Poulami (Indian Institute of Technology Bhubaneswar)

Track Classification: Formal theory