



Contribution ID: 52

Type: **Talk**

Black hole entropy in the presence of Chern-Simons term and holography

Monday 20 July 2015 17:00 (20 minutes)

In this presentation, I will revisit the Noether charge formulation of black hole entropy in the presence of gravitational Chern-Simons terms in higher dimensions. I will provide a manifestly covariant formulation of the differential Noether charge and prove the (generalized version of) black hole entropy formula for gravitational Chern-Simons terms proposed by Tachikawa. In the context of gauge/gravity duality, gravitational theory with Chern-Simons term on AdS black hole background is dual to CFT at finite temperature with quantum anomalies, which is actively and systematically investigated in the hydrodynamic limit recently. I will explain the role of our formulation in this holographic setup.

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Session Classification: Junior plenary session

Track Classification: Juniors