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Black Holes in f(T) gravity

Wednesday 16 April 2025 11:00 (30 minutes)

We extend the black hole holography to the case of an asymptotically anti-de Sitter (AdS) rotating charged black holes in f (T) = T + αT2 gravity, where α is a constant. We find that the scalar wave radial equation at the near-horizon region implies the existence of the 2D conformal symmetries. We show that choosing proper central charges for the dual CFT, we produce exactly the macroscopic Bekenstein-Hawking entropy from the microscopic Cardy entropy for the dual CFT. These observations suggest that the rotating charged AdS black hole in f (T) gravity is dual to a 2D CFT at finite temperatures.

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