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On the First Law of Thermodynamics for (2+1) Dimensional Charged BTZ Black Hole and Charged de Sitter Space

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 [Keywords](#)
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Abstract: In this paper we will show that using the cosmological constant as a new thermodynamical state variable, the differential and integral mass formulas of the first law of thermodynamics for asymptotic flat spacetimes can be extended to (2+1) dimensional charged BTZ black holes and charged de Sitter space.

Key Words: General Relativity, Thermodynamics of Black Holes, Lower Dimensional Models



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