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Title:	Dynamic noncommutative BTZ black holes
Authors:	Ankura (/jspui/browse?type=author&value=Ankura) Dey, Sanjib (/jspui/browse?type=author&value=Dey%2C+Sanjib)
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Abstract:	We have studied the charged BTZ black holes in noncommutative spaces arising from two independent approaches. First, by using the Seiberg-Witten map followed by a dynamic choice of gauge in the Chern-Simons gauge theory. Second, by inducing the fuzziness in the mass and charge by a Lorentzian distribution function with the width being the same as the minimal length of the associated noncommutativity. In the first approach, we have found the existence of non-static and non-stationary BTZ black holes in noncommutative spaces for the first time in the literature, while the second approach facilitates us to introduce a proper bound on the noncommutative parameter so that the corresponding black hole becomes stable and physical. We have used a contemporary tunneling formalism to study the thermodynamics of the black holes arising from both of the approaches and analyze their behavior within the context.
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