

Quasinormal frequencies of asymptotically anti-de Sitter black holes in two dimensions

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Abstract We calculate exactly the quasinormal frequencies of Klein–Gordon and Dirac test fields propagating in 2D uncharged Achúcarro–Ortiz black hole. For both test fields we study whether the quasinormal frequencies are well defined in the massless limit. We use their values to discuss the classical stability of the quasinormal modes in uncharged Achúcarro–Ortiz black hole and to check the recently proposed Time Times Temperature bound. Furthermore we extend some of these results to the charged Achúcarro–Ortiz black hole.

Keywords Uncharged Achúcarro–Ortiz black hole · Charged Achúcarro–Ortiz black hole · Quasinormal frequencies · Time Times Temperature bound

1 Introduction

In classical physics, the black holes are intrinsically dissipative systems because the one way property of the event horizon implies that the perturbations travel only to the black hole interior. Depending on the asymptotic structure of the spacetime the

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