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Quasinormal modes of static black holes in dilatonic Einstein – Gauss – Bonnet theory

We present a study of the quasinormal mode spectrum of static Einstein-Gauss-Bonnet-dilaton black holes. Both axial and polar perturbations are analysed for arbitrary values of the coupling constants of the theory. We compare the spectrum of the Schwarzschild black hole with the spectrum of the dilatonic black holes, which present a new component related with the scalar field. Some black holes become unstable in the large dilaton coupling regime. We study the implications of this quasinormal mode spectrum on the emission of gravitational waves during the ringdown phase of astrophysical black holes.