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GREYBODY FACTORS AND QUASINORMAL MODES OF BLACK HOLES: EXACT ANALYTICAL EXPRESSIONS

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Greybody factors are frequency dependent quantities that measure the deviation from the perfect black body spectrum of Hawking radiation, and they provide us with valuable information about the near horizon structure of black holes. In addition, when black holes are perturbed the geometry of spacetime undergoes damped oscillations. Quasinormal modes, with a non-vanishing imaginary part, provide us with the frequencies and the damping times of these oscillations, and since they do not depend on the initial conditions, they carry unique information about the few black holes parameters. I will discuss both greybody factors and quasinormal modes under scalar perturbations of the BTZ black hole as well as of the Einstein-Born-Infeld dilaton black hole, which is inspired from Superstring Theory, and I will present exact analytical expressions for both quantities in both models.