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Quantum Corrections to Quasi-Normal Modes of Near-Extremal Black Holes

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Quasi-normal modes are intrinsic properties of black holes and important messages carried by gravitational waves. For near-extremal black holes with very low temperatures, the quantum gravity effects become non-negligible, consequently modifying the quasi-normal modes. For a 4D near-extremal Reissner-Nordström black hole, its quantum gravity fluctuations should manifest in the near-horizon AdS_2 region, which can be studied within the framework of the nearly AdS_2 Jackiw-Teitelboim gravity. In this talk, I will discuss the quantum corrections to the quasi-normal modes of a 4D near-extremal Reissner-Nordström black hole via this mechanism.

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