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Shadow/QNMs correspondence for black holes in KK gravity

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In this work we present a new solution of a black hole surrounded by massive vector fields in the context of Kaluza-Klein theory. This vector field corresponds to a spin-1 graviton that modifies the law of gravity and allows the effects attributed to dark matter in the universe. In order to analyze the influence of the parameters associated to this solution, we perturb the geometry with a massive scalar field and find the interrelated quasinormal modes (QNMs). Then, we calculate the radius of the shadow of the black hole and confirm the correspondence Shadow/QNMs. Finally, we also constrain the parameters of the model using observational data from SgrA*.

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