

Quantum Corrections to the Shadow of Schwarzschild Black Hole Surrounded by Holographic Quintessence

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Abstract. We study the shadow behavior of a quantum-corrected, regular Schwarzschild black hole surrounded by the holographic quintessence. We investigate how the shadow of a black hole is influenced by quantum effects together with holographic quintessence. We use the Hamilton-Jacobi approach and also, the Carter method to formulate the geodesic equations of the black hole. We find that the shadow size of a black hole is indeed determined by background quantum effects and dark energy ingredient of the Universe, in addition to the mass of a non-rotating black hole.

Keywords: holographic quintessence, shadow, regular black holes.