Review of: "Modified Hawking radiation of Schwarzschild-like black hole in bumblebee gravity model"

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Potential competing interests: No potential competing interests to declare.

The research presented in this paper offers a commendable contribution to the field of theoretical physics, particularly in the domain of black hole physics and quantum gravity. The authors meticulously delve into the intricacies of the SBHBGM spacetime, employing a range of well-established methodologies. The incorporation of alternative coordinate systems is a noteworthy addition, shedding light on previously unexplored aspects of gravitational behavior around massive objects.

The introduction of the Generalized Uncertainty Principle (GUP) into the Hamilton-Jacobi equation represents a significant advancement in the analysis. This modification leads to a refined understanding of particle behavior near the event horizon, ultimately resulting in the derivation of the modified temperature of SBHBGM. The investigation of the GUP-induced modifications to the emitted particle's behavior is particularly enlightening, offering a fresh perspective on the interplay between quantum effects and black hole physics.

Furthermore, the examination of the quantum-corrected (QC) entropy within the SBHBGM framework is a crucial aspect of this research. The incorporation of both the Lorentz symmetry-breaking parameter ℓ and the quantum correction parameter α demonstrates a comprehensive approach to understanding the underlying microscopic quantum behavior. The derived expressions for QC entropy and modified temperature provide valuable insights into the complex relationship between quantum corrections, thermodynamic properties, and the fundamental behavior of black holes.

In conclusion, this paper offers a omprehensive exploration of quantum gravity effects in the SBHBGM spacetime, incorporating various well-founded methodologies and introducing novel concepts such as the Generalized Uncertainty Principle. The findings presented in this research have the potential to significantly advance our understanding of black hole physics and probe the effects of quantum gravity at astrophysical scales. The suggested future research directions, particularly the study of rotating black holes within the bumblebee gravity theory, promise to further enrich this already valuable contribution to the field.

Suggestion: Create more visuals/plots to compare different results from the classical hawking temperature and the modified ones.