

Quantum Corrections to the Radiation of Schwarzschild-anti-de Sitter Black Hole with Topological Defect

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Abstract: We extend Zhang and Zhao's recent work to the Schwarzschild-anti-de Sitter black hole with topological defect, whose Arnowitt-Deser-Misner (ADM) mass is no longer identical to its mass parameter. The behavior of the tunneling massive particle is investigated and the emission rate is calculated. The result satisfies an underlying unitary theory and takes the same functional form as that of the mass-less particle.

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Key words: black hole, ADM mass, emission rate, quantum theory, Hamilton-Jacobi method

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