

# Asymptotic description of a test particle around a Schwarzschild black hole

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In this paper, the movement of a test particle around a Schwarzschild black hole is revisited. Using matched asymptotic expansions, approximate analytical expressions for the orbit of the test particle in the case of large eccentricity are found. The asymptotic solutions are compared with numerical and analytical results. © 2018 European Physical Society.

black hole

matched asymptotic expansions

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