

Abstract Submitted
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SUSY Schwarzschild and Schwarzschild-(anti)de Sitter black holes¹ O. OBREGON, S. ZACARIAS, J.C. LOPEZ-DOMINGUEZ, Departamento de Fisica, Division de Ciencias e Ingenierias, Campus Leon, Universidad de Guanajuato — The Wheeler-DeWitt (WDW) equation for the Kantowski-Sachs model can also be understood as the WDW equation corresponding to the Schwarzschild black hole due to the well known diffeomorphism between these two metrics. The WDW equation and its solutions are ignorant of the coordinate patch one is using, only by imposing coordinate conditions we can differentiate between cosmological and black hole models. At that point, the foliation parameter t or r will appear in the solution of interest. We supersymmetrize this WDW equation obtaining an extra term in the potential with two possible signs. The WKB method is then applied, giving rise to two classical equations. Two asymptotic cases arise; one of them corresponds to the usual Schwarzschild black hole. We study the other two asymptotic regions; they provide three singular solutions at $r = 0$ and depending on an integration constant C they can also present a singularity in $r = C^2$. We find an associated mass, and based on the holographic principle an entropy can be assigned to this asymptotic solution. The same procedure is applied to the Lambda-Kantowski-Sachs model, its WDW equation can also be understood as the one corresponding to the Schwarzschild-(anti)de Sitter space-times. These cases will also be discussed.

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