

On the non-Gaussianity of the Schwarzschild-AdS black hole in the presence of a cosmological constant

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Abstract

We consider the Schwarzschild-AdS black hole in the presence of a cosmological constant. We show that the Schwarzschild-AdS black hole with spherical symmetry exhibits non-Gaussianity in the phase space in the black hole horizon region. In order to obtain the Schwarzschild-AdS black hole with Gaussianity in the horizon region, we use the extended Schwarzschild-AdS black hole model with spherical symmetry. We also show that the non-Gaussianity of the Schwarzschild-AdS black hole in the horizon region is identical to the non-Gaussianity of the black hole horizon.