

A Look at the Model of the Black Hole Universe

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Abstract

We study the cosmological model of the black hole universe with a time dependent scalar field in order to understand the effects of the black hole horizon on the dynamics of the cosmos. We consider the model with a time dependent scalar field and seek a simple solution, which is a metric function of several parameters. We test our solution for the prediction of the cosmological constant of the black hole universe. Our solution is a constant of the form $O_{\text{hbar}} \left(O_{\text{hbar}} \right)$ where O_{hbar} is the inverse of the cosmological constant. The solution is possible in the $\mathcal{O}$ and in the $\mathcal{N}$ space-time.