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GRAVITATIONAL LENS MODELS FOR COSMOLOGICAL BLACK HOLES

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If such objects as cosmological black holes really exist, they can be studied with a standard technique like strong and weak gravitational lensing. Cosmological voids can be explained as the result of the collapse of large perturbations into black hole with masses of the order of $10^{14} M_{\odot}$ and the expansion of the Universe. The resulting image of the Universe is that it is more homogeneous than expected from present observations. In this paper, we discuss some lensing properties related to the cosmological black holes (CBHs), namely, we consider differences in gravitational lensing for point-like mass and extended mass distributions. We consider the singular isothermal sphere model as a toy (illustrative) model for an extended distribution of Dark Matter and a slightly more complicated isothermal sphere with a core.

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