On the CMB anisotropy deviations between AR-VTG and GR.

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ABSTRACT

As is well known, Cosmic Microwave Background (CMB) anisotropies are divided into two types: those produced at decoupling and before (primary anisotropies), and the anisotropies generated between the last scattering surface and the observer (secondary). There is a viable vector-tensor gravity (VTG) theory, whose vector field produces repulsive forces, and those corresponding to the cosmological background are identical to the forces produced by vacuum energy (cosmological constant) [1, 2, 3]. VTG has been also studied in static spherically symmetric case, in which the existence and number of event horizons have been proved to be dependent on the value of a certain VTG parameter [4]. There exists opposite gravitational forces in this theory, so it will be hereafter called AR-VTG (attractive-repulsive vector-tensor gravity). In this paper we study some differences between the cosmological predictions of AR-VTG and those of the standard model of general relativity (GR) with cold dark matter and cosmological constant. In particular, we show that the differences between the CMB anisotropies of both models are secondary, since they are due to the so-called late integrated Sachs Wolfe effect.

References

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