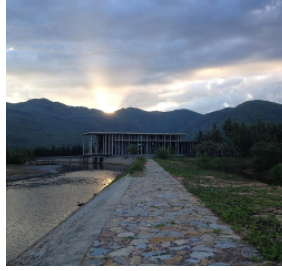


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String cosmological models in $f(R, T)$ gravity

Non-singular Bianchi-III and VI_0 string cosmological models filled with perfect fluid in the framework of $f(R, T)$ gravity are presented. The model initially accelerates for a certain period of time and decelerates thereafter. The physical behaviour of the model is also studied.

Summary

We have studied Bianchi type-III and VI_0 metrics in $f(R, T)$ gravity proposed by Harko et al. (2011). We have considered the source of matter as perfect fluid with one dimensional strings. Exact solutions of the $f(R, T)$ gravity field equations are obtained by choosing a special value for the average scale factor of the model which corresponds to a time-dependent deceleration parameter. The string tension density vanishes for Bianchi-III whereas for Bianchi- VI_0 it exist. In both the cases the energy density is positive and decreasing function of time. The physical parameters θ, H, σ^2 are decreasing function of time and tend to zero as $t \rightarrow -\infty$ for both the models. Since $\frac{\sigma^2}{\theta^2} \neq 0$, both the models are anisotropic throughout the evolution of the universe.

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