

# Evolution of Cosmological parameters exhibited by the Starobinsky $f(r)$ gravity model in Einstein frame

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$f(r)$  gravity model is a part of modified gravity models proposed to explain the present accelerated expansion of the universe. A scalar degree of freedom can be defined from any  $f(r)$  gravity model by redefining the model's variable. We have studied the evolution of cosmological parameters using the scalar degree of freedom of the Starobinsky  $f(r)$  gravity model in the Einstein frame. It is found that this model could produce the accelerated expansion of the universe in this frame with the negative equation of state of the scalar field. There are other interesting observations that we have found from this study which we will report here.

**Author:** Mrs DEKA, Kabita (Ph.D. student)

**Co-author:** Dr DEV GOSWAMI, Umananda (Department of Physics, Dibrugarh University)

**Presenter:** Mrs DEKA, Kabita (Ph.D. student)

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