## **Cosmology 2023 in Miramare**



Contribution ID: 74

Type: not specified

## Observational constrained F(R,G) gravity cosmological model and the dynamical system analysis

Thursday 31 August 2023 22:05 (5 minutes)

The geometrical and dynamical parameters of the F(R,G) gravity cosmological model is constrained through the cosmological data sets. The functional form of F(R,G) involves the square Ricci scalar and the higher power of the Gauss-Bonnet invariant. The observed value of the free parameters in the expression of H(z), the Hubble parameter, indicates a different phase of the evolution of the Universe. In all the data sets, the early deceleration and late time acceleration behavior of the Universe has been observed. We develop a set of dynamical equations for a given physical system and find the numerical solutions, along with phase-space solutions, and the stability of individual critical points. We also discuss the asymptotic behavior of the critical points of the system.

**Presenter:** LOHAKARE, Santosh (BITS-Pilani, Hyderabad Campus, India) **Session Classification:** Posters of thursday (ignore time)