Contribution ID: **20** Type: **Plenary/Parallel talk**

Generalized SU(2) Proca theory and constant-roll inflation

Monday 22 August 2022 14:00 (20 minutes)

This talk will be divided into two pieces. In the first part of the talk, I will present the generalized SU(2) Proca theory (GSU2P for short). As a modified gravity theory that introduces new gravitational degrees of freedom, the GSU2P is the non-Abelian version of the well known generalized Proca theory where the action is invariant under global transformations of the SU(2) group. New interesting possibilities arise in this framework because of the existence of new interactions of purely non-Abelian character and new configurations of the vector field resulting in spatial spherical symmetry and the cosmological dynamics being driven by the propagating degrees of freedom. In the second part of the talk, I will show what the impact of the GSU2P is on the cosmic primordial inflation epoch. Inflation is of the constant-roll type, featuring de Sitter expansion, and shows as an attractor straight line with an attraction basin covering most of the phase space. No Big-Bang singularities appear in this scenario. The predictions on the primordial curvature perturbation spectrum and bispectrum are obtained and shown to be in agreement with observations.

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