Contribution ID: **144** Type: **20 minutes talk**

Cosmology of a new class of massive vector fields

Thursday, 16 December 2021 18:30 (30 minutes)

I will start by presenting existing classes of massive vector fields before moving on to the new Extended Proca-Nuevo, a non-linear theory of a massive spin-1 field that enjoys a non-linearly realized constraint that distinguishes it among other generalized vector models. I will show how this theory builds a (partial) bridge between the equivalent Generalized Proca and Proca Nuevo while exploring a new portion of the space of massive vector models. I will then prove that the theory may be covariantized in models that allow for consistent and ghost-free cosmological solutions. This model describes the correct number of dynamical variables in the presence of perfect fluid matter. I will finally exhibit, in a specific set-up, explicit hot Big Bang solutions featuring a late-time self-accelerating epoch, and which are such that all the stability and subluminality conditions are satisfied and where gravitational waves behave precisely as in General Relativity.

Could you please give the most relevant category for your talk?

Cosmology

Will you be pre-recording your talk?

No

Would you be interested in receiving feedback on your presentation?

Yes

Are you happy for your talk to be recorded?

Yes

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Session Classification: Full-length talks