

Unexpected possible connection between cosmology and particle physics

Wednesday, 24 July 2024 10:00 (35 minutes)

I'll introduce two ideas connecting the big problem in particle physics with cosmology.

The first example is 'Naturalness' in which multiple copies of the Standard Model explain the smallness of the Higgs mass.

Dark radiation and dark neutrino would be the main prediction of the setup.

The second example is 'Weak scale as a trigger' in which the smallness of the cosmological constant is tied up with the weak scale.

Extremely light scalar fields are the essential ingredients and can be a candidate of dark matter.

Seemingly unrelated observation might give a strong hint on the big problem we pursue for a long time.

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Session Classification: Presentations