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Bose Einstein condensates as unified cosmology

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Abstract content

In this talk we present some ideas how to unify the early Universe, that means the inflationary epoch, with the late universe, when the large scale structure formed. If the inflaton decays into another scalar field with a smaller mass, this new scalar field can work as the dark matter. In a $SO(1,1)$ isospin unification, the scalar field can be the dark energy as well. We present the evolution of the inflationary epoch, the linear formation of structure using these scalar fields and some work of how the non-linear regime of Bose-Einstein collapse can work as a model of galactic haloes in this paradigm.

Summary

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