

# Structure formation in scalar-tensor models and effects of SZ effect in non-Gaussian models

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## **Abstract**

Despite the standard  $\Lambda$ CDM model seems to be the most promising model to explain current observational data, it is still interesting to study alternative models allowed by data. To this purpose I will focus on scalar-tensor models that, in the regime of interest, present a time-varying gravitational constant. I will focus on observational consequences of this physical aspect and compare it with analogous predictions with usual dark energy models.

In the second part of my talk I will present some results regarding the statistical properties of the Sunyaev-Zeldovich effect in simulations with non-Gaussian initial conditions.