

## Cosmology with Mimetic Matter

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This talk will be mostly based on [2]. I will discuss cosmology of the recently introduced “mimetic” modification of general relativity [1]. This modification is manifestly Weyl-invariant and can mimic practically any cosmological époque [2, 3]. In particular, this “mimetic” modification can naturally account for a part of dark matter [2, 3]. It is also possible to unify such dark matter with dark energy as it was shown, in [3]. Finally one can construct an interesting single-field model for the early universe inflation. This model has parametrically suppressed gravity waves but does not seem to produce any non-Gaussianity, moreover the usual consistency relation for the single-field inflationary models gets modified.

### *References*

- [1] A. H. Chamseddine, V. Mukhanov, *Mimetic Dark Matter*, JHEP **1311** (2013) 135, arXiv:1308.5410
- [2] A. H. Chamseddine, V. Mukhanov, and A. Vikman, *Cosmology with Mimetic Matter*, JCAP **1406** (2014) 017, arXiv:1403.3961
- [3] E. A. Lim, I. Sawicki, and A. Vikman, *Dust of Dark Energy*, JCAP **1005** (2010) 012, arXiv:1003.5751

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