# Ghost Dark Matter

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*(Submitted on 26 Jan 2010)*

We revisit ghost dark matter, the possibility that ghost condensation may serve as an alternative to dark matter. In particular, we investigate the Friedmann-Robertson-Walker (FRW) background evolution and the large-scale structure (LSS) in the $\Lambda$GDM universe, i.e. a late-time universe dominated by a cosmological constant and ghost dark matter. The FRW background of the $\Lambda$GDM universe is indistinguishable from that of the standard $\Lambda$CDM universe if $M\gtrsim 1 {\rm eV}$, where $M$ is the scale of spontaneous Lorentz breaking. From the LSS we find a stronger bound: $M\gtrsim 10 {\rm eV}$. For smaller $M$, ghost dark matter would have non-negligible sound speed after the matter-radiation equality, and thus the matter power spectrum would significantly differ from observation. These bounds are compatible with the phenomenological upper bound $M\lesssim 100 {\rm GeV}$ known in the literature.

Comments: 27 pages, 5 figures
Subjects: **Cosmology and Extragalactic Astrophysics (astro-ph.CO)**; General Relativity and Quantum Cosmology (gr-qc); High Energy Physics - Phenomenology (hep-ph); High Energy Physics - Theory (hep-th)
Cite as: **arXiv:1001.4634v1 [astro-ph.CO]**

## Submission history

From: Shuichiro Yokoyama [view email]
**[v1]** Tue, 26 Jan 2010 10:12:46 GMT (853kb)