Dark Energy and Dark Matter as Lagrange Multipliers

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In these two lectures I will review dark energy (DE) and dark matter (DM) problems and discuss recent proposals how one can describe these phenomena using Lagrange multipliers.

In particular, I will discuss different versions of the currently popular mimetic construction.

In the first lecture I will show how this mimetic construction can be used to describe DM and even superconducting DM. The latter is a fluid-like dust which provides a mass to a (dark) photon.

In the second lecture I will extend this construction to vector fields and DE