

Fluid Lagrangians versus Massive Gravity Theories

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We show how the low energy dynamics of self-gravitating fluids, super fluids and elastic solids can be unified with a specific modified gravity model: massive gravity. Our results can be used as the building blocks to describes dark energy and possible interactions between dark energy and dark matter based on symmetry principles. According to to this picture dark energy is a self-gravitating medium with mechanical and thermodynamical properties which can be tested in future probes.