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A Generalization Of The Effective Field Theory Of Dark Energy
SINA BAHRAMI, Penn State University, Cornell University, EANNA FLANAGAN, Cornell University — The effective field theory of dark energy is generalized to incorporate dark matter, which is modeled using a complex scalar field with a global $U(1)$ symmetry. The dark matter model used here has similarities to models of ultralight axion. Generic interaction terms in the dark matter sector violate the weak equivalence principle. While the status of the weak equivalence principle with respect to dark matter is currently unknown, cosmological and astrophysical observations can be used to constrain the amount of weak equivalence principle violation in the dark matter sector.

Sina Bahrami
Penn State University, Cornell University

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