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## Theoretical priors for quintessence. Towards a general parametrization of Horndeski cosmologies.

The late time acceleration of the Universe can be characterized in terms of an extra, time dependent, component of the universe – dark energy. The simplest proposal for dark energy is quintessence, a scalar field,  $\phi$ , whose dynamics is solely dictated by its potential,  $V(\phi)$ . In this simple case, just an extra function of the background is necessary to describe the evolution of the dark energy density. We find its time dependence for a broad family of potentials. Using this information, we propose a parametrization which is accurate and in terms of which we construct physical priors for quintessence.

**Primary authors:** GARCIA-GARCIA, Carlos (IFF-CSIC); BELLINI, Emilio; FERREIRA, Pedro; TRAYKOVA, Dina; ZUMALACARREGUI, Miguel

**Co-authors:** RUIZ-LAPUENTE, Pilar; ZUMALACARREGUI, Miguel

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