

Positivity bounds – the consequences of a unitary, causal, local UV completion – place strong restrictions on theories of dark energy and/or modified gravity. I will discuss such bounds for general Horndeski scalar-tensor theories and show that pairing them with data constraints (from CMB, redshift space distortion, matter power spectrum and BAO measurements) promises to qualitatively improve current constraints on dark energy/modified gravity parameters. Using a subclass of Horndeski theories as an explicit example, I will illustrate this point by showing that (for this subclass) positivity bounds eliminate all but $\sim 1\%$ of the previously allowed parameter space.