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# Realizing Non-Singular Cosmologies within Horndeski Gravity

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We present a minimal setup within the framework of Horndeski gravity that describes a nonpathological Genesis scenario. Our setup allows for a fully stable transition to the kination epoch, during which General Relativity (GR) is restored. This Genesis scenario circumvents the no-go theorem, albeit at the cost of encountering the risk of strong coupling in the past. Interestingly, our scenario admits two distinct regimes for the background evolution of the Hubble parameter during the Genesis phase: one with power-law behavior and one with manifestly non-power-law behavior. We explicitly show that, in both regimes, our model remains within unitarity bounds. However, in most cases, the resulting tensor spectrum is blue-tilted. We then investigate an alternative model in which the Genesis phase is followed by Starobinsky inflation. We find that corrections from the Genesis phase to Starobinsky inflation can account for the ACT data.

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