

Attractor cosmology beyond the poles

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We study attractor models with singular kinetic terms, interpreting them as a union of multiple canonical models. This class of theories usually gives rise to inflation, but we find that early-time acceleration can be replaced by late-time acceleration if the potential pulls the field towards the pole. Therefore, we identify an obstacle for resolving the problem of initial conditions in such theories: the choice of where the field starts its evolution in a non-canonical Lagrangian corresponds to choosing between physically distinct canonical models. As an example of this kind of behaviour, we study α -attractor models with a monomial potential as well as quintessential inflation, which occurs between the poles of α -attractors with an exponential potential. In this case, we find that there are three distinct domains: one corresponding to quintessential inflation, one corresponding to inflation, and one corresponding to quintessence. Even when inflation is supported in a domain, we find a second-order discrepancy in inflationary observables. We finally also examine multifield models with singular kinetic terms. In this case, poles generalise straightforwardly to singular curves which act as model walls between distinct pole-free inflationary models. To illustrate, we look at a simple two-field α -attractor-inspired model, where we find that the growth of isocurvature perturbations is domain-sensitive.