

Pseudo-Nambu-Goldstone inflation with twin waterfalls

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We consider a model for pseudo-Nambu-Goldstone inflation, in which twin waterfall fields ensure a graceful exit from inflation. Adding a Z_2 symmetry for the waterfall and the inflation fields ensures the flatness of the inflationary potential, protecting it from large quantum corrections from the waterfall couplings.

We study the initial conditions required for successful inflation and perturbative reheating from the decay of the waterfalls through a Z_2 invariant Higgs portal.

Finally, the twin fields coupling to the inflaton can be microscopically explained in the context of dark QCD with light and heavy quarks.

Presenter: MENKARA, Adriana Guerrero (Chung Ang U.)

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