

PITT PACC Workshop: Non-Standard Cosmological Epochs and Expansion Histories

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Block V: Scalar Fields and Non-Standard Expansion Histories II (Specific Models) - Presentation

Friday 6 September 2024 11:00 (30 minutes)

Co-Discussion Leaders: Akshay Ghalsasi, Tristan Smith

This is the second of two blocks focused on modifications to the cosmological expansion history which can arise in the presence of additional scalar fields (other than epochs of early matter domination, which are not unique to scalars and thus will be covered in a different block). Such modifications include, for example, early dark energy, but would also include kination epochs and other epochs wherein the universe is dominated by a fluid with a ‘stiff’ ($w > 1/3$) equation of state. The discussion during this block will focus on specific models which give rise to modifications along these lines (including axion kination and early-dark-energy scenarios) which are motivated by phenomenological and observational considerations such as the dark-matter problem, baryogenesis, and tensions between measurements made at early and late times.

Presenters: GHALSASI, Akshay (University of Pittsburgh); SMITH, Tristan (Swarthmore College)