Brans-Dicke classical cosmology in Einstein frame and metric signature transition

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Abstract
Pauli (or Einstein) frame is used to study the Brans-Dicke gravity theory, minimally coupled with dilatonic Brans-Dicke scalar field, whose solutions involve degenerate metrics. Some of these solutions exhibit transitions from an Euclidean domain to a Lorentzian space-time corresponding to a spatially flat Robertson-Walker cosmology.

Keywords: Brans Dicke gravity, metric signature transition, Robertson Walker metric, classical cosmology, Dilaton field, Euclidean topology, Lorentzian topology, Jordan frame, Pauli frame

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