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Inflation from Dynamical Projective Connections

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Inflationary models that are capable of matching observational constraints are abundant, but very few have an underlying physical principle guiding the choice of the inflaton potential and dynamics. We show how a recently developed model of gravity which incorporates an extension of general relativity to include projective invariance (TW gravity) naturally gives rise to a field acting as the inflaton with a specific form of the potential. We find a parameter space for the free parameters of this model that fit the experimental constraints of the most recent cosmological data.

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