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Spectroscopy of two-field Inflation

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Citation
Welling, Y. M. (2018, November 27). *Spectroscopy of two-field Inflation*. *Casimir PhD Series*. Retrieved from https://hdl.handle.net/1887/67091

Version:	Not Applicable (or Unknown)
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Note: To cite this publication please use the final published version (if applicable).

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Author: Welling, Y.M.
Title: Spectroscopy of two-field Inflation
Issue Date: 2018-11-27

Stellingen

Behorend bij het proefschrift "Spectroscopy of Two-Field Inflation".

I The Hamilton-Jacobi formalism might also provide a powerful tool to improve our understanding of universality of inflation with a large number of fields (Chapter 2).

II The multi-field inflationary potential does *not*, generically, reflect the symmetries of perturbations (Chapter 3).

III By simply truncating heavy fields one always overestimates the size of the tensor-to-scalar ratio (Chapter 5).

IV The real benefit of perturbative calculations of large-scale structure for learning about the primordial universe will come when we populate the far side of the moon (Chapter 6).

V The effective field theory of multi-field inflation by Senatore and Zaldarriaga is too restrictive to describe the most interesting dynamics of multi-field inflation.

L. Senatore and M. Zaldarriaga: JHEP, **04**, 024 (2012).

VI It is remarkable that Seljak's multi-tracer technology allows us to test single field inflation to arbitrary precision in an idealized cosmological experiment, limited by shotnoise only.

U. Seljak: PRL, **102**, 021302 (2009).

VII The conjectured restrictions on the available field range for inflation could *potentially* lead to an upper bound on the tensor-to-scalar ratio on inflation embedded in string theory.

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Yvette Welling
Leiden, 27-11-2018

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