

Thermal friction in early cosmology

Tuesday, 23 June 2020 16:00 (1 hour)

Zoom meeting: <https://cern.zoom.us/j/7930190483> (password: see email)

Format: 40 minutes talk + 20 min discussion

Virtual Axion Institute: The discussion on this talk can be continued in Kim's virtual guest office.
<https://mattermost.web.cern.ch/axions/channels/kim-berghaus>

Abstract: Rolling scalar fields play an important role in understanding cosmology within a particle physics framework. Coupling a rolling scalar field to light degrees of freedom gives rise to a thermal friction which, if large enough, induces a thermal bath. In the context of inflation the presence of such a thermal bath has compelling consequences as it significantly alters the usual observables, leading to a suppression of the tensor-to-scalar ratio r and a unique prediction for non-gaussianities. In my talk, I will illuminate why the axion of a non-Abelian gauge group is the ideal candidate for generating the thermal friction and how it sets the stage for a minimal setup of warm inflation, as well as a potential solution to the Hubble tension.

Presenter: BERGHAUS, Kim (Johns Hopkins University)

Session Classification: Gauge fields