



Prof. Dr. Vladimir Braun  
Universität Regensburg

## Inversion symmetry in strong interactions

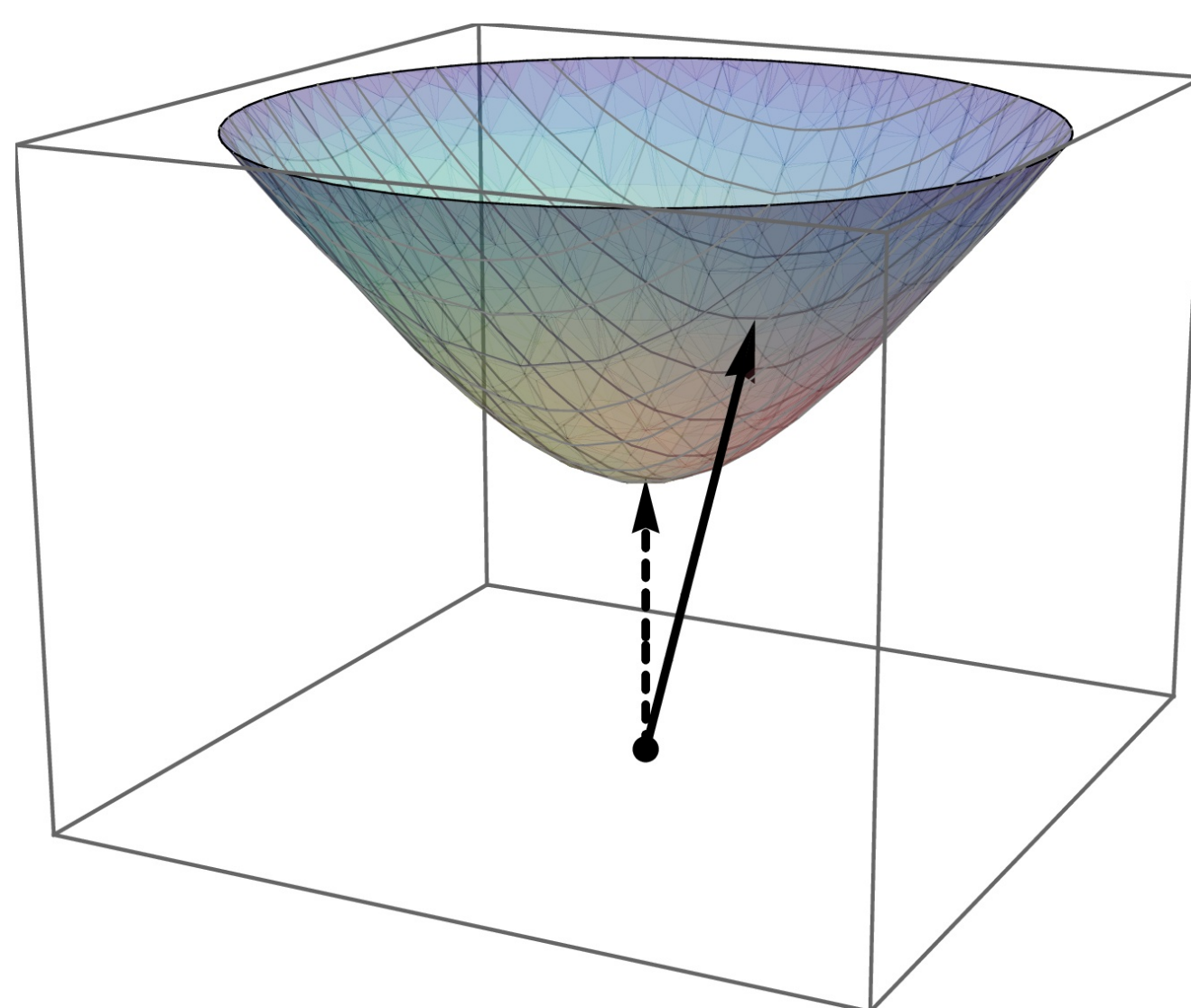
### A personal journey

physikalisches

Mo. 19.1.26  
16:00 Uhr  
Ort: H34

At first sight, the inversion transformation  $x \rightarrow 1/x$  appears to have little relevance to the description of quark and gluon interactions, which are weak at short distances - a feature known as asymptotic freedom - and strong at long distances, leading to quark confinement. This intuitive expectation, however, turns out to be misleading. Owing to the particular structure of modern quantum chromodynamics (QCD), approaches based on conformal symmetry - of which inversion is a crucial element - have become an important part of the theoretical toolbox.

In this talk, I will outline the underlying ideas and illustrate how inversion symmetry enters the game through several examples of processes relevant to contemporary hadron and particle physics. I will aim to keep the presentation simple and accessible to non-experts.



Spin vector on a hyperboloid