

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 29.11.2018, 16¹⁵ Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1
Treffen zum gemeinsamen Kaffee 16 Uhr

Dr. Hong Zhang

(Physik Department T31, TU München)

Axion Stars

The axion is a hypothetical pseudo-Goldstone boson, arising from the breaking of the Peccei-Quinn $U(1)$ -symmetry, which allows to solve the strong CP-problem in QCD. It is also one of the most popular candidates for dark matter. To detect dark matter axions, it is very important to understand, how they exist in our universe at present. The axions produced in the early universe by a misalignment mechanism were non-relativistic and coherent. Later, a collection of axions could have condensed into a bound Bose-Einstein condensate, called an axion star. It is thus possible that a significant fraction of the axion dark matter exists in the form of axion stars. This would make some efforts to identify the dark matter axions more challenging, but it would also open new possibilities. In this talk, I will review the recent progress in the study of axion stars.

gez. Peter Thirolf
Tel. 289-14064

gez. Norbert Kaiser
Tel. 289-12367