

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

Garching Maier-Leibnitz-Kolloquium

Donnerstag, 28.04.2022, 16¹⁵ Uhr

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

Dr. Fabian Kuger

(Albert-Ludwigs Universität Freiburg)

A glimpse into the dark - probing the universe with deep underground liquid xenon detectors

The nature of the dark matter in our galaxy and the universe is one of the outstanding riddles of modern (astroparticle-) physics. Time projection chambers (TPCs) instrumenting liquid xenon (LXe) targets are the most successful detectors in not detecting dark matter, i.e. they set the world leading limits on the cross-section of WIMP dark matter with standard matter. A future multiple ton LXe target TPC, such as the DARWIN observatory, will push this detection boundary down into the neutrino fog, the ultimate limit for the non-directional direct WIMP detection.

In this colloquium you will learn about the dark matter in our universe, how to detect its direct interaction with matter and how a future LXe TPC experiment could resolve open questions in astro-, neutrino- and nuclear physics beyond the WIMP case.

Hybrid online access via ZOOM:

<https://lmu-munich.zoom.us/j/98457332925?pwd=TWc3V1JkSHpyOTBPQVIMelhuNnZ1dz09>

Meeting ID: 984 5733 2925

Passcode: 979953

gez. Peter Thirolf
Tel. 289-14064

gez. Norbert Kaiser
Tel. 289-12367