



Münchner Physik- Kolloquium

Winter
2017/18

Probing neutrino mass and searching for sterile neutrinos with KATRIN

Prof. Dr. Susanne Mertens, *Max Planck Institute for Physics, München*

Monday, 5 February 2018, 17:15 h

Hörsaal H 030, Fakultät für Physik der LMU, Schellingstraße 4, München

The neutrino is one of the most fascinating particles of the Standard Model. While our understanding of the neutrino has changed dramatically over the past decade, some of its fundamental properties such as its nature and mass are still unknown. Moreover, it remains an open question whether or not there exists a right-handed partner of the known left-handed neutrino, a so-called sterile neutrino. The prime goal of the Karlsruhe Tritium Neutrino (KATRIN) experiment is to directly probe the mass of neutrinos by measuring the tritium beta decay spectrum close to its endpoint. Its unprecedented source and spectrometer qualities, however, allow to extend its physics goal to also search for sterile neutrinos in the eV to keV mass range. This talk will present the current status of the KATRIN experiment and the progress of the R&D towards a sterile neutrino program of KATRIN.

Student event: Meet the speaker

We invite you to a **student-only** discussion-round with Prof. Dr. Susanne Mertens before her Munich Physics Colloquium talk.

Be curious and feel free to ask any question.

Monday, 5 February 2018, 16:00 h

Room H 522 (5th floor), Fakultät für Physik der LMU, Schellingstraße 4, München

