



# Münchener Physik- Kolloquium

Sommer  
2022

## Latest results from KATRIN on neutrino mass and the search for sterile and relic neutrinos

Dr. Thierry Lasserre, CEA, Saclay, France

Monday, 11 July 2022, 17:15 h

Hörsaal 2, Physik-Department der TUM, James-Franck-Straße 1, Garching

■ Neben der Veranstaltung vor Ort sind die Vorträge in diesem Semester auch als Videoübertragung im Internet verfügbar: <https://tum-conf.zoom.us/j/93234766313>

Meeting-ID: 932 3476 6313; Password: Kolloquium; Please install the software in advance.

I will report on the latest results from the Karlsruhe Tritium Neutrino Experiment (KATRIN). KATRIN probes the effective mass of electron anti-neutrinos via a high-precision measurement of the  $\beta$ -decay spectrum of tritium near its endpoint at 18.6 keV. In the first two campaigns taken in 2019, KATRIN has established that the effective mass of neutrinos is less than 0.8 eV/c<sup>2</sup> (90 % CL), setting a limit in the sub-eV range for the first time. I will also discuss the search for light sterile neutrinos by KATRIN as well as the first results on the search for relic neutrinos produced about one second after the big bang. Finally, I will outline the perspectives for the next five years.

## Student event: Meet the speaker

We invite you to a **student-only** discussion-round with Dr. Thierry Lasserre before his Munich Physics Colloquium talk.

Be curious and feel free to ask any question.

Monday, 11 July 2022, 16:00 h,

Seminar room PH 3268 (upper floor), Physik-Department der TUM, James-Franck-Straße 1, Garching

