

# Physikalisches Kolloquium

**Michelle Galloway, Universität Zürich**  
**»Excess electronic recoil events in XENON1T«**

*Einführung: K. Valerius*

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Abstract: A search for new physics with XENON1T revealed an excess of electronic recoil events in the (1 - 7) keV region, favoring signal over background with significances of 3.4 sigma for solar axions/ALPs, 3.2 sigma for an enhanced neutrino magnetic moment, and 3.0 sigma global (4.0 local) for bosonic dark matter with a peak at 2.3 +/- 0.2 keV (68% C.L.). Additionally, a previously undetected tritium component, favoured at 3.2 sigma over known backgrounds, can neither be confirmed nor excluded. I will provide an overview of the XENON1T detection and analysis methods for this search, a characterization of the excess events, discuss possible background candidates, and present results for potential new physics.

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**Freitag, 29.01.2021, 16:00 Uhr,**  
**live über Zoom.**