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Faculty of Physics

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Weakly-coupled light new particles



The Physics Colloquium is a series of public lectures hosted by the Faculty of Physics of the University of Vienna, featuring internationally renowned speakers covering the full breadth of our fields of research.

Matthias Neubert

Johannes Gutenberg-Universität Mainz,
Germany

thep.physik.uni-mainz.de/group-of-matthias-neubert

Weakly-coupled light new particles

The existence of light, weakly-interacting new particles beyond the Standard Model is a well-motivated alternative to new particles existing at the TeV scale or beyond. With the example of axion-like particles (ALPs), which offer an explanation of the puzzling absence of the electric dipole moment of the neutron, we discuss the current status of both direct searches at the LHC and in flavor experiments, and indirect searches using precision measurements of electroweak and low-energy observables. We emphasize the importance of subtle quantum effects, which generate multiple ALP couplings to the Standard Model particles even if at a high scale only a single ALP coupling is non-vanishing.

Monday, 28 October at 13:30-15:00

A light lunch buffet will be offered before the lecture at 13:00.

Lise-Meitner lecture hall

Faculty of Physics, Strudlhofgasse 4, 1090 Vienna

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