



SPEAKER: Dr. Axel Lindner (DESY)

TITLE: **The low energy frontier: searches for ultra-light particles beyond the Standard Model**

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PLACE: Council Chamber

ABSTRACT

In the recent years theoretical studies and astrophysical observations have confirmed that unknown constituents of our universe like dark matter may find its explanation not only at large-scale experiments at highest energies, but could also show up at the opposite energy scale.

In many laboratories world-wide searches for axions, axion-like particles, hidden photons, chameleons or other so-called WISPs with masses below the eV scale are ongoing. Examples at DESY are the experiments ALPS ("Any Light Particle Search") and SHIPS ("Solar HIDDEN Photon Search"). At CERN CAST and OSQAR take data. In all these experiments new particles could manifest themselves in a very spectacular manner. Light would apparently shine through thickest walls.

The results of a first generation of laboratory and astrophysics experiments will be summarized and plans for future enterprises be discussed