

# Searching for Axions and other Light Bosons at DESY

*Thursday 3 April 2025 13:45 (30 minutes)*

Light bosons, including the axion and axion-like particles (ALPs) inspired by string theory, are compelling candidates for new physics. These particles are of interest not only for their potential to address the strong CP problem but also as promising dark matter candidates and mediators of novel interactions. Experimental searches for light bosons span three main approaches: haloscopes probe signals from the galactic dark matter halo; helioscopes explore particles produced in the sun; and laboratory-based experiments aim to produce and detect these particles in controlled settings.

DESY is uniquely positioned to potentially host cutting-edge experiments in all three categories, including the haloscope MADMAX, the helioscope IAXO, and the light-shining-through-wall experiment ALPSII. In this talk, I will provide an update on DESY's efforts to search for axion-like particles, highlighting the results of the initial data-taking campaigns for MADMAX and ALPSII.

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**Session Classification:** Invited Topical Talks 2 / Eingeladene Vorträge 2