First ECFA WORKSHOP.

Contribution ID: **29** Type: **Parallel session talk**

Probing new physics with a LUXE-type experiment at future Higgs factories

Wednesday 5 October 2022 14:20 (15 minutes)

The proposed LUXE (LASER Und XFEL Experiment) at DESY, Hamburg, using the 16.5 GeV electron beam from the European XFEL, aims to probe QED in the non-perturbative regime created in collisions between high-intensity laser pulses and high-energy electron or photon beams. This setup also provides a unique opportunity to probe physics beyond the Standard Model by leveraging the large photon flux generated at LUXE, probing axion-like-particles (ALPs) at a reach comparable to FASER2 and NA62. In this contribution we will explore the sensitivity of a LUXE-type experiment using the electron beam of future Higgs factories instead of the EU.XFEL one.

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Session Classification: WG 1 - Searches

Track Classification: WG1-SRCH - Physics Potential: Feebly interacting particles, direct low mass searches