

XVth Quark Confinement and the Hadron Spectrum



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First results from FASER at the LHC

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FASER, the Forward Search Experiment, at the Large Hadron Collider (LHC) aims to study neutrino interactions with the unexplored high energy range and to search for light, weakly-interacting new particles. The detector is located 480 m downstream of the ATLAS interaction point along the beam axis.

The FASER collaboration announced the first direct observation of collider neutrinos, using the initial data from Run3. The first measurement of the cross-sections of electron neutrino and muon neutrino interactions were made, using a sub-sample of data collected with an emulsion detector. We also searched for dark photons and axion-like particles (ALPs), which are strong candidates for light dark matter models, obtaining new constraints on the parameter space.

In this seminar, the first physics results from FASER will be discussed. Additionally, future plans for the Forward Physics Facility (FPF), which will provide important insights into QCD, will be introduced.

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