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## FLArE: Forward Liquid Argon Experiment for High Energy Neutrino and Dark Matter Searches at LHC

*Saturday, 9 July 2022 15:15 (15 minutes)*

FLArE is a Liquid Argon Time Projection Chamber (LArTPC) based experiment designed to detect very high-energy neutrinos and search for dark matter at the Large Hadron Collider at CERN. It will be located in the proposed Forward Physics Facility, 620 m from the ATLAS interaction point in the far-forward direction, and will collect data during the High-Luminosity LHC era. With a fiducial mass of 10 tonnes, FLArE will detect millions of neutrinos at the highest energies ever detected from a human source and will also search for Dark Matter particles with world-leading sensitivity in the MeV to GeV mass range. The LArTPC technology used in FLArE is well-studied for neutrino and dark matter experiments. It offers an excellent spatial resolution and allows excellent identification of individual particles. In this talk, I will overview the physics reach, preliminary design, and status of the FLArE project.

### In-person participation

Yes

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