# Looking forward to New Physics and Neutrinos with FASER at the LHC

Speaker: Dr. Tomohiro Inada (Tsinghua U.)

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## Abstract / 摘要:

FASER, the ForwArd Search ExpeRiment, is an experiment dedicated to searching for light, extremely weakly-interacting particles at the LHC. Such particles may be produced in the high-energy collisions at the LHC and then decay to visible particles in the detector, which is placed 480 m downstream of the ATLAS interaction point. FASER also includes a sub-detector, FASERnu, designed to detect high-energetic neutrinos produced in the LHC collisions with the 13.6 TeV of the center-of-mass energy and to study their properties. FASER has joined the LHC Run 3 from the beginning and has been taking data. This seminar will present the latest status of the FASER experiment, including commissioning, operation and early analysis, and also discuss a newly proposed future project to be implemented at CERN for the high luminosity LHC era, which is called the Forward Physics Facility (FPF).

## About the speaker / 报告人介绍:

Dr. Tomohiro Inada is a Shuimu Tsinghua Scholar and also supported by the International Postdoctoral Exchange Fellowship from China. He obtained his Ph.D degree in 2020 from the University of Tokyo and Institute for Cosmic Ray Research (ICRR). He participated in MAGIC collaboration and Cherenkov Telescope Array (CTA) project targeting high-energy gamma-ray (GeV - TeV) astrophysics. His thesis topic was the search for gamma-ray from dark matter annihilation in the Galactic Center of the Milky Way, which led him to win the young researcher's award from the Japan Association of High Energy Physicists (JAHEP) in 2022. Since 2021, he joined Tsinghua University as a postdoctoral research associate and participated in the FASER collaboration. He has made leading contributions to the tracker system and neutrino analysis for FASER. He has been working on the search for long-lived particles, such as dark photon and axion-like particles, and the application of high-energetic forward neutrino studies from the Large Hadron Collider (LHC) into cosmic-ray physics.