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First Data with FASER: A new LHC experiment for long lived particle searches

FASER, the ForwArd Search ExpeRiment, is an experiment dedicated to searching for light, extremely weakly-interacting particles at CERN's Large Hadron Collider (LHC). Such particles may be produced in the very forward direction of the LHC's high-energy collisions and then decay to visible particles inside the FASER detector, which is placed 480 m downstream of the ATLAS interaction point, aligned with the beam collisions axis. FASER also includes a sub-detector, FASERv, designed to detect neutrinos produced in the LHC collisions and to study their properties. FASER was designed, constructed, installed and commissioned during 2019-2022 and has been taking physics data since the start of LHC Run 3 in July 2022. This talk will present the status of the experiment, including the detector design, the physics sensitivity and the detector performance with first collision data.

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