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Looking forward to New Physics: the FASER Experiment

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New physics has traditionally been expected in the high- p_T region at high-energy collider experiments. If new particles are light and weakly-coupled, however, this focus may be completely misguided: light particles are typically highly collimated around the beam line, allowing sensitive searches with small detectors, and even extremely weakly-coupled particles may be produced in large numbers there. Our recently approved new experiment, the ForwArd Search ExpeRiment, or FASER, will be placed downstream of the ATLAS interaction point in the unused service tunnel TI12 to operate concurrently with the LHC. FASER will complement the LHC's existing physics program and extend its discovery potential to a host of new particles, such as dark photons and axion-like particles. In this talk, we will describe FASER's location and discovery potential, the detector's layout and components, as well as the experiment's timeline.

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