

## Searches for Long-Lived Particles at the FCC-ee

The FCC-ee is a frontier Higgs, Top, Electroweak, and Flavour factory. It will be operated in a 100 km circular tunnel built in the CERN area, and will serve as the first step of the FCC integrated programme towards a 100 TeV and above proton-proton collisions in the same infrastructure. In addition to an essential and unique Higgs program, it offers powerful opportunities for discovery of direct or indirect evidence for BSM physics, via a combination of high precision measurements and searches for forbidden or rare processes, and feebly coupled particles.

The direct search for Long Lived particles (LLPs) in the high luminosity Z run, with  $5 \times 10^{12}$  Z produced, is particularly fertile; high statistics of Higgs, W and top decays in very clean experimental conditions will also be recorded. This motivates an out-of-the-box optimization of the experimental conditions, which is the object of a letter of intent submitted to EF08, EF09, EF10, and RF6.

### Primary frontier topic

Energy Frontier

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