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The IDEA detector concept for FCC-ee

The electron-positron stage of the Future Circular Collider (FCC-ee) provides exciting opportunities that are enabled by next generation particle physics detectors. We present IDEA, a detector concept optimized for FCC-ee and composed of a vertex detector based on DMAPS, a very light drift chamber, a silicon wrapper, a high resolution dual redout crystal electromagnetic calorimeter, an HTS based superconducting solenoid, a dual readout fiber calorimeter, and three layers of muon chambers embedded in the magnet flux return yoke. In particular, we discuss the physics requirements and the technical solutions chosen to address them. We then describe the detector R&D currently in progress, test-beam results, and show the expected performance on some key physics benchmarks.

Secondary track

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