

The IDEA detector concept for FCC-ee

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The future circular electron-positron collider (FCC-ee) is receiving much attention in the context of the FCC Feasibility Study currently in advanced progress described in the mid-term report, in preparation for the next EU strategy update. 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 dual readout calorimeter outside a thin 2 Tesla solenoid and muon chambers inside the magnet yoke. In particular we discuss the physics requirements and the technical solutions chosen to address them. We also present some possible upgrades that are studied in order to further extend and improve the physics capabilities of IDEA. We then describe the detector R&D currently in progress and show the expected performance on some key physics benchmarks.

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