

sign of a drift chamber tracking system for the IDEA experiment as

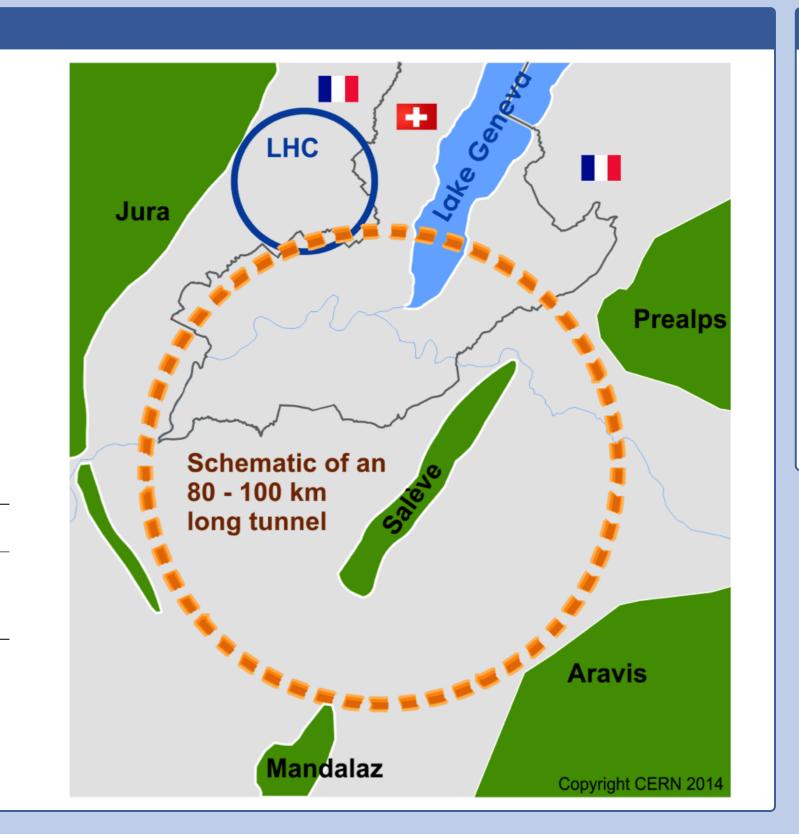


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The Future Circular Collider Experiment (FCC)

- A future possibility for the post-LHC era
- 3 options of circular colliders
- FCC-ee: electron positron collisions
- FCC-hh: proton proton collisions
- FCC-eh: electron proton collisions
 ∼100 km tunnel in Geneva area
- FCC-ee collider parameters:

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Stages	Z	WW	H (ZH)	tī
Beam energy [GeV]	45.6	80	120	182.5
Average bunch spacing [ns]	19.6	163	994	3396



FCCSW: Physics and Detector simulations with FCCSW

- Common software for all FCC experiments (ee, hh & eh)
- Detector and physics studies
- Fast & full simulations
- One software stack from event generation to physics analysis
- Collaborative approach with other CERN experiments
 - Gaudi from LHC
- DD4hep from CLIC & LHCb
- New solutions where needed

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	Seometry DDhep	Segmen- tation	Geant4 simulation	Digitization

The IDEA detector concept for FCC-ee

- Two detector concepts for the FCC-ee collider
 The IDEA detector concept (focus of this poster)
- A CLIC-based (silicon-based) detector
- Ultimate goal for the IDEA detector concept
 - Vertex detector: MAPS
 - Ultra-light drift chamber with particle identification
 - Double readout calorimetry
 - Aditional silicon disk layers placed in the space between the drift chamber and the dual readout calorimeter to increase the forward coverage
 - 2 T solenoidal magnetic field
 - Instrumented return yoke
- Large tracking volume (R \sim 8 m) for very weakly
- coupled (long-lived) particles

