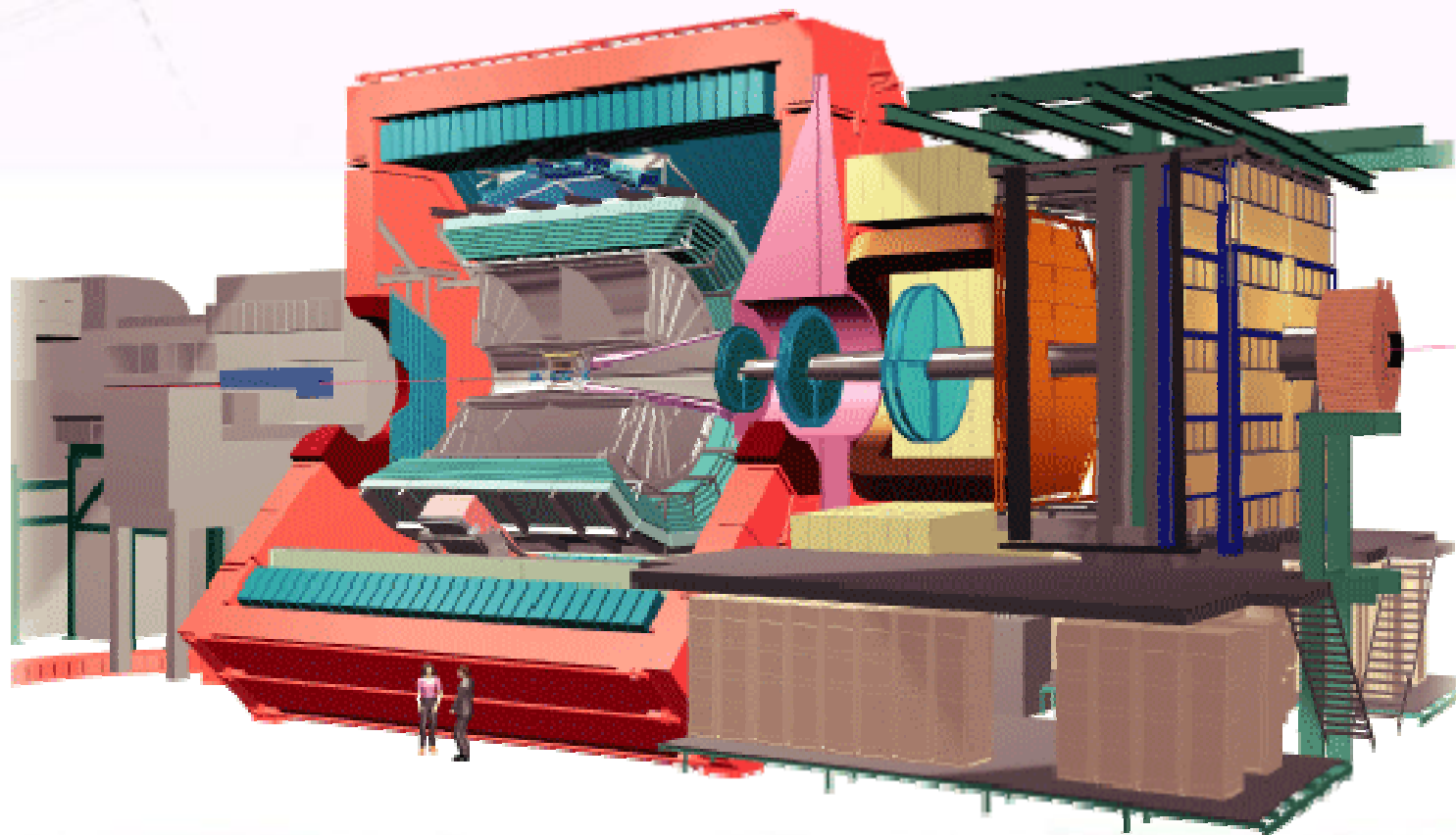


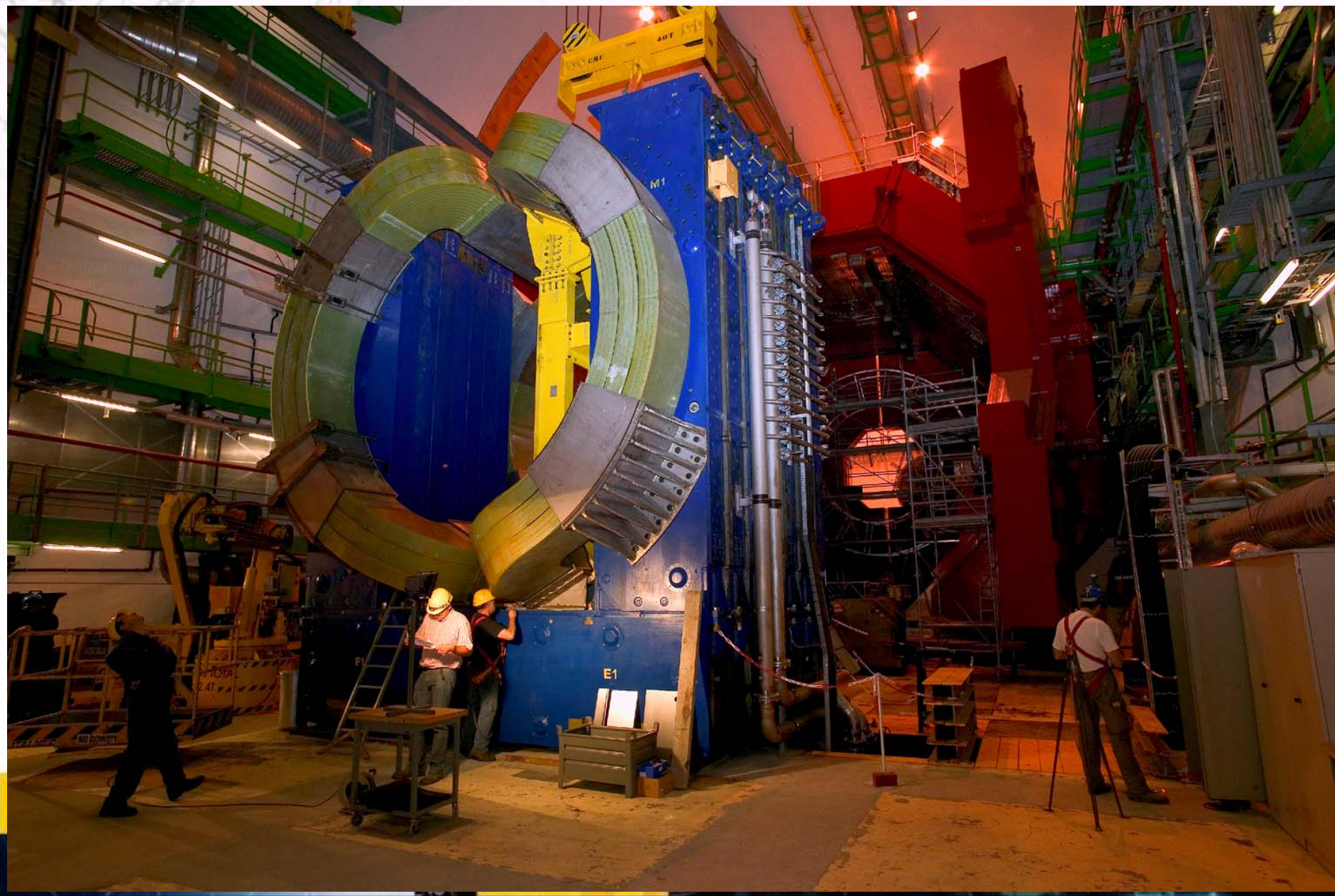
The ALICE detector.



The ALICE Detector



ALICE ~2 år siden



ALICE ~1 år siden



The TPC detector.

Inner radius: 80 cm

Outer radius: 250 cm

Volume: 88m^3

90% Ne, 10%CO₂

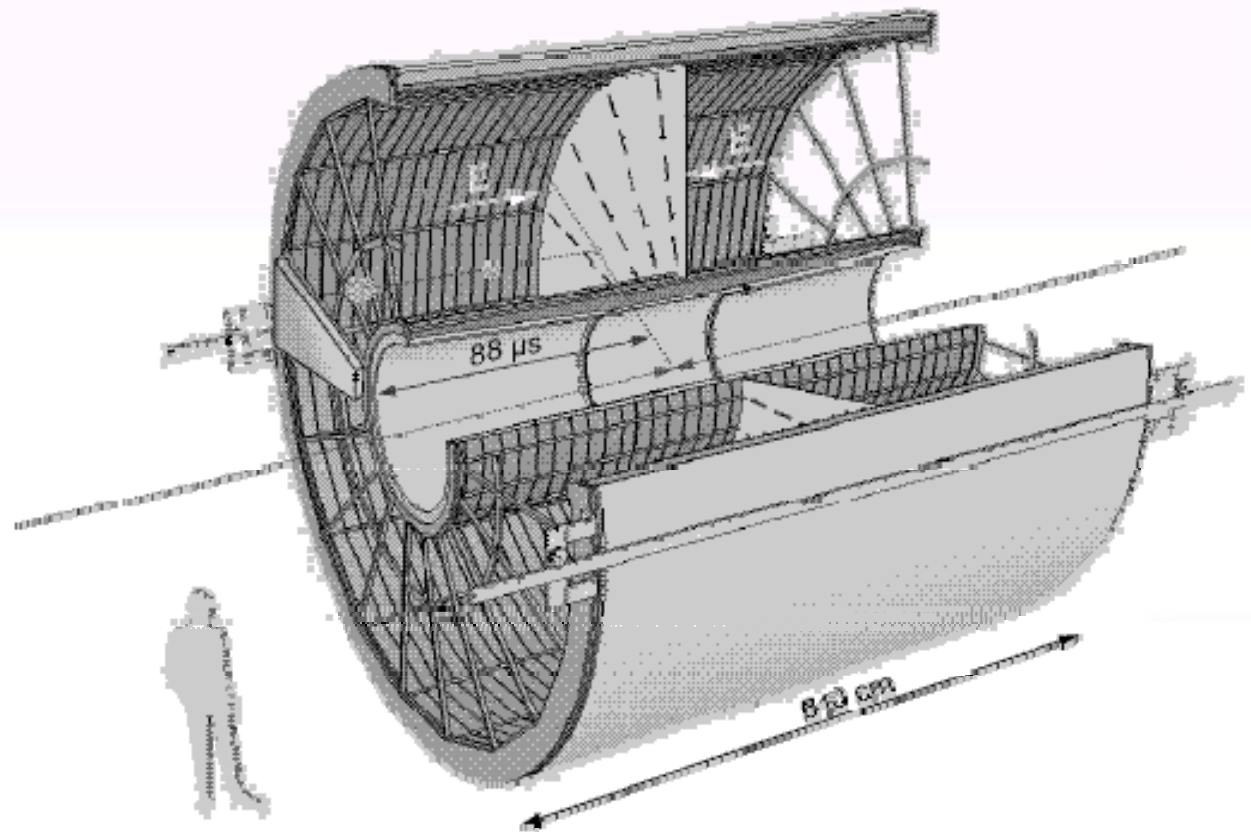
Drift Field: 400 V/cm

Drift Velocity: 2.84 cm/ μs

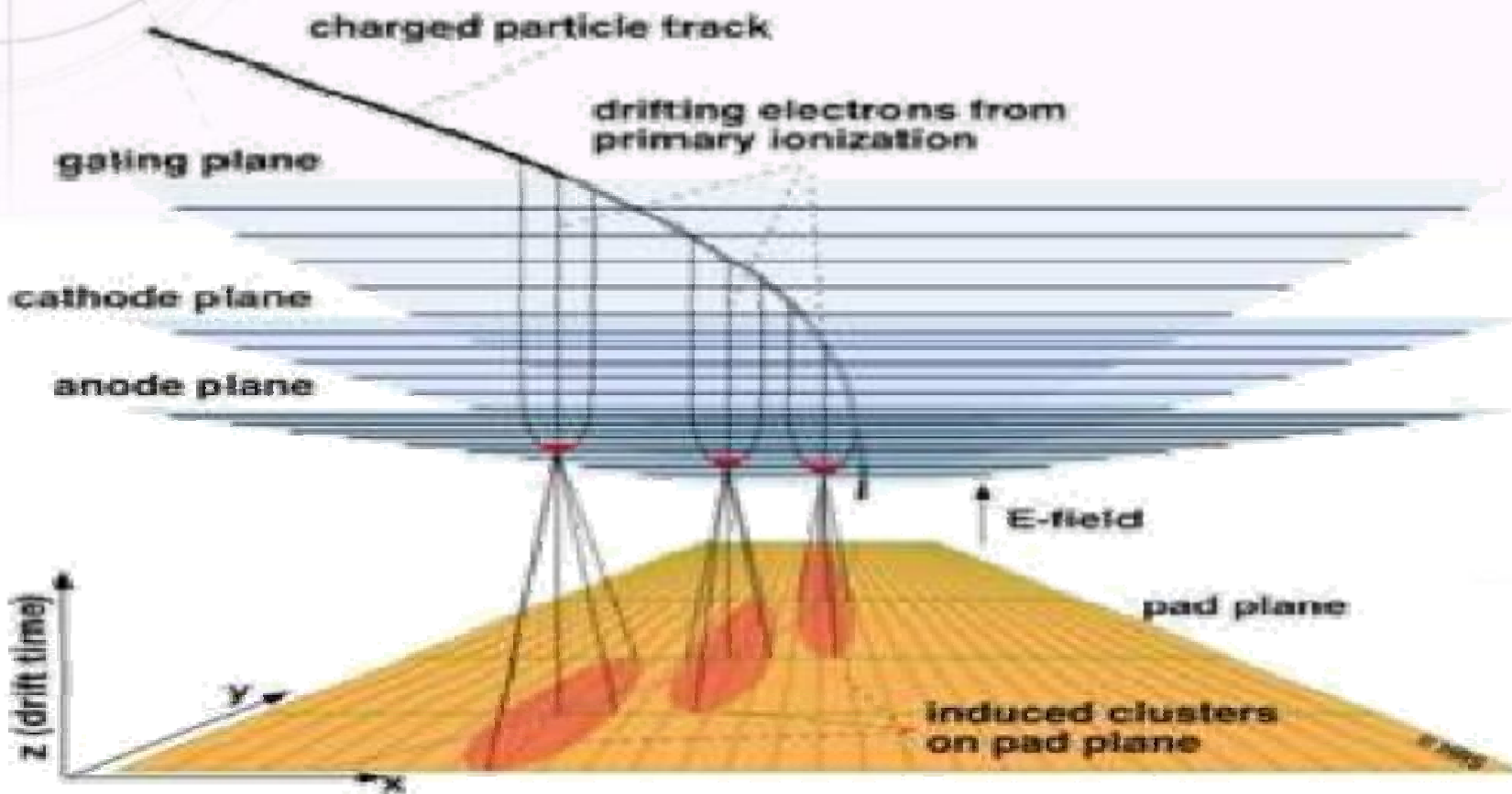
Drift time: 88 μs

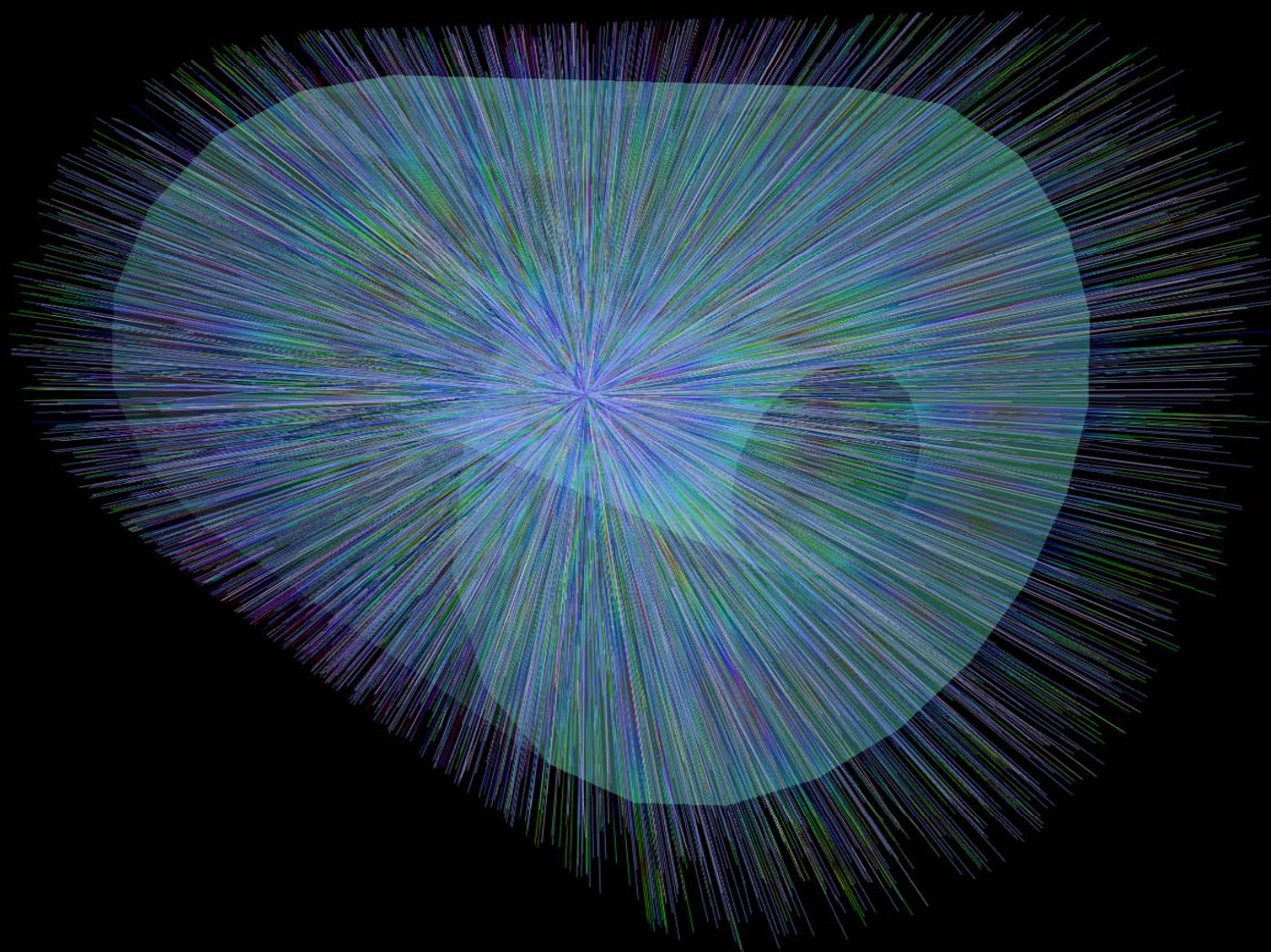
Spatial resolution:

$\sim 300\mu\text{m}$ in $r\phi$ and $\sim 600\mu\text{m}$ in z

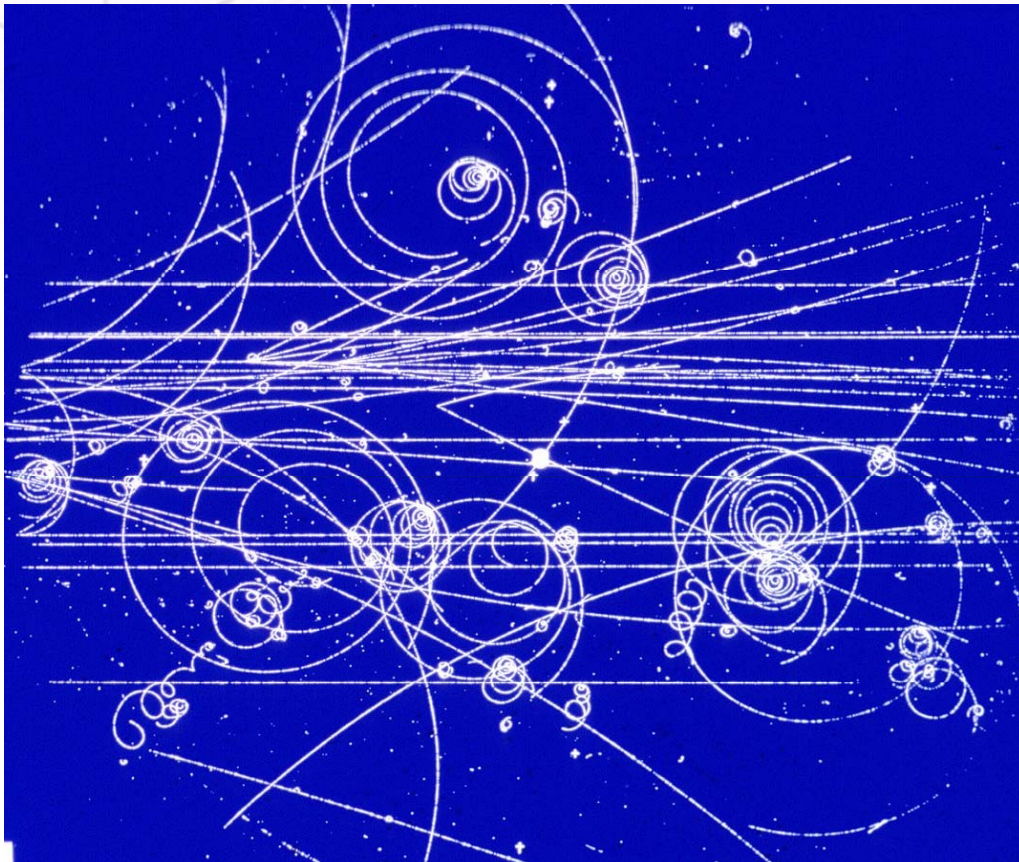


TPC working principle





Detector Readout

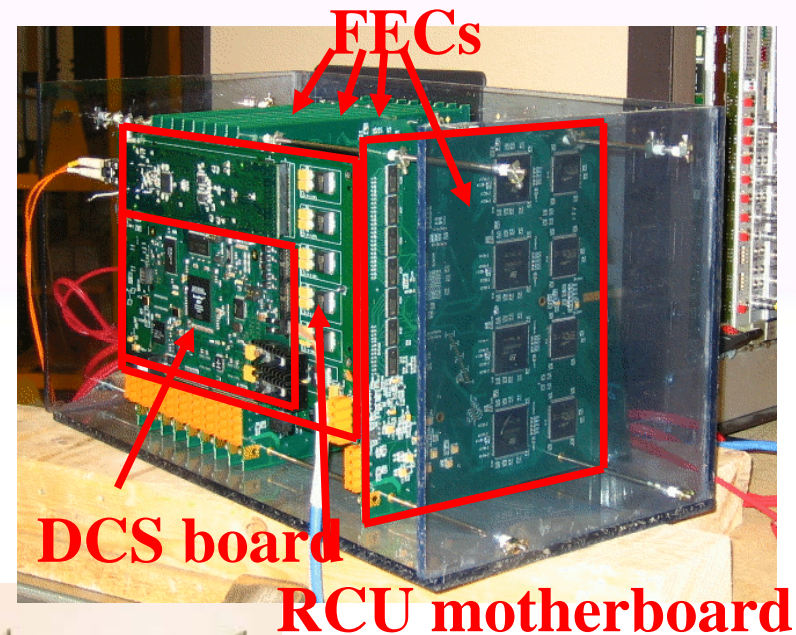
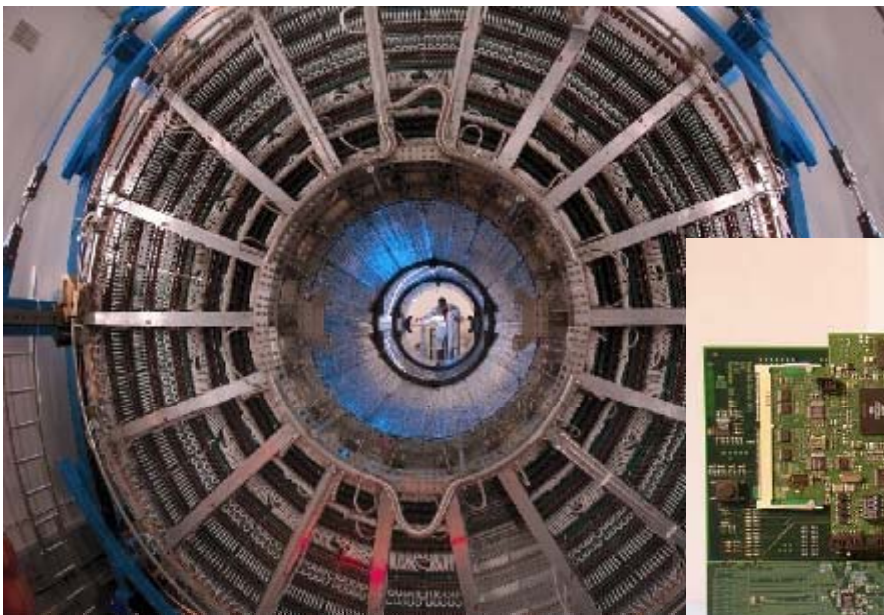


- The “traditional” way:
 - Bubble Chamber
 - & Camera



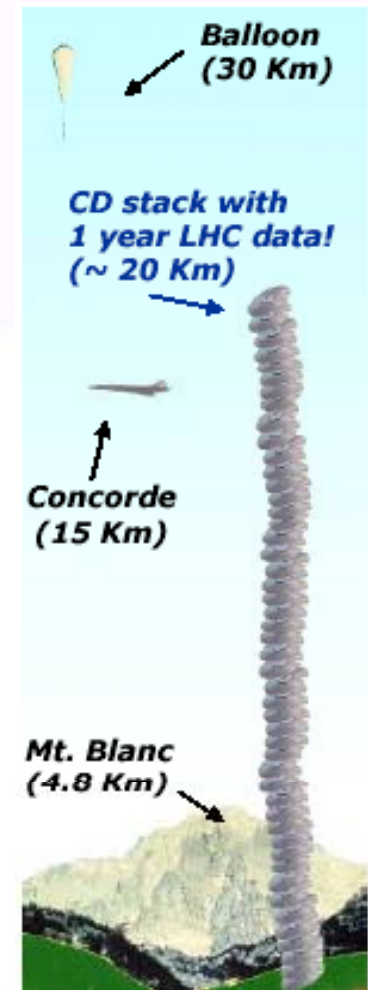
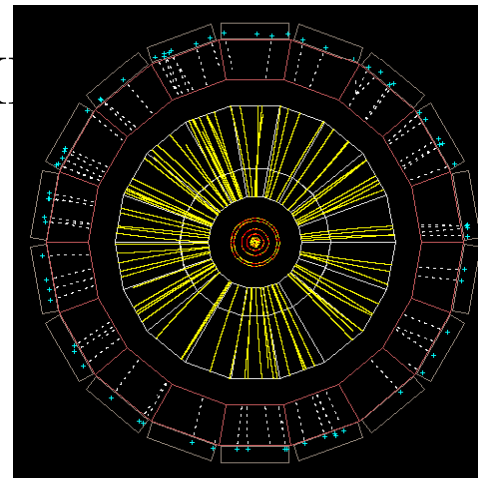
Instrumentation/Microelectronics

- All readout by electronic devices
- Analog to Digital conversion



Data Analysis

- Forventet data rate for sentrale bly-bly kollisjoner er 200 Hz.
 - Data rate 20 – 25 GByte/sec
- Hard disk med 250 GByte ville bli full på 10 sekunder
- High Level Trigger System (HLT) reduserer dette til ca 1.25 Gbyte/sec
- 6 Pbyte = 6000 Tbyte per år



High Level Trigger



- Computing cluster for on-line data processing
- On-line analysis, Data reduction, Data compression



GRID Computing in ALICE

- Distributed computing clusters



Free Nodes Busy Nodes No Data Farm Down

Håper dere har trivdes på CERN.

Studer fysikk, det er gøy.