CMS Detector

SILICON TRACKER

Pixels (100 x 150 μm²) ~1m² ~66M channels

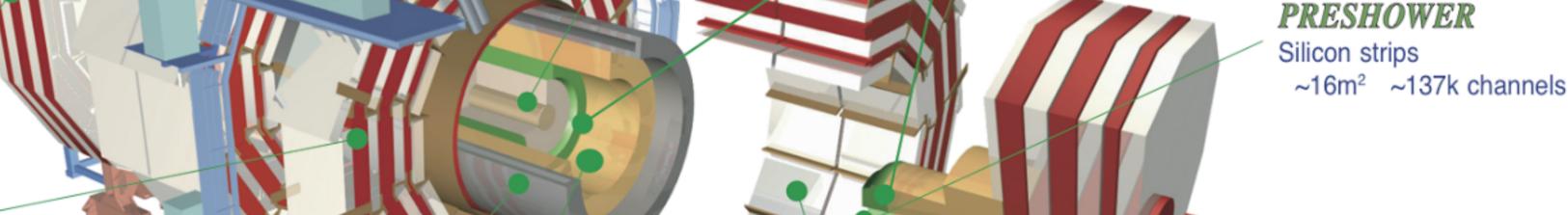
Microstrips (80-180μm)

~200m² ~9.6M channels

Pixels
Tracker
ECAL
HCAL
Solenoid
Steel Yoke
Muons

CRYSTAL ELECTROMAGNETIC
CALORIMETER (ECAL)

~76k scintillating PbWO₄ crystals



STEEL RETURN YOKE ~13000 tonnes

SUPERCONDUCTING SOLENOID

Niobium-titanium coil carrying ~18000 A

FORWARD CALORIMETER

Steel + quartz fibres ~2k channels

Total weight Overall diameter Overall length

Magnetic field

: 14000 tonnes

: 15.0 m : 28.7 m

: 3.8 T

HADRON CALORIMETER (HCAL)

Brass + plastic scintillator

~7k channels

MUON CHAMBERS

Barrel: 250 Drift Tube & 480 Resistive Plate Chambers Endcaps: 468 Cathode Strip & 432 Resistive Plate Chambers