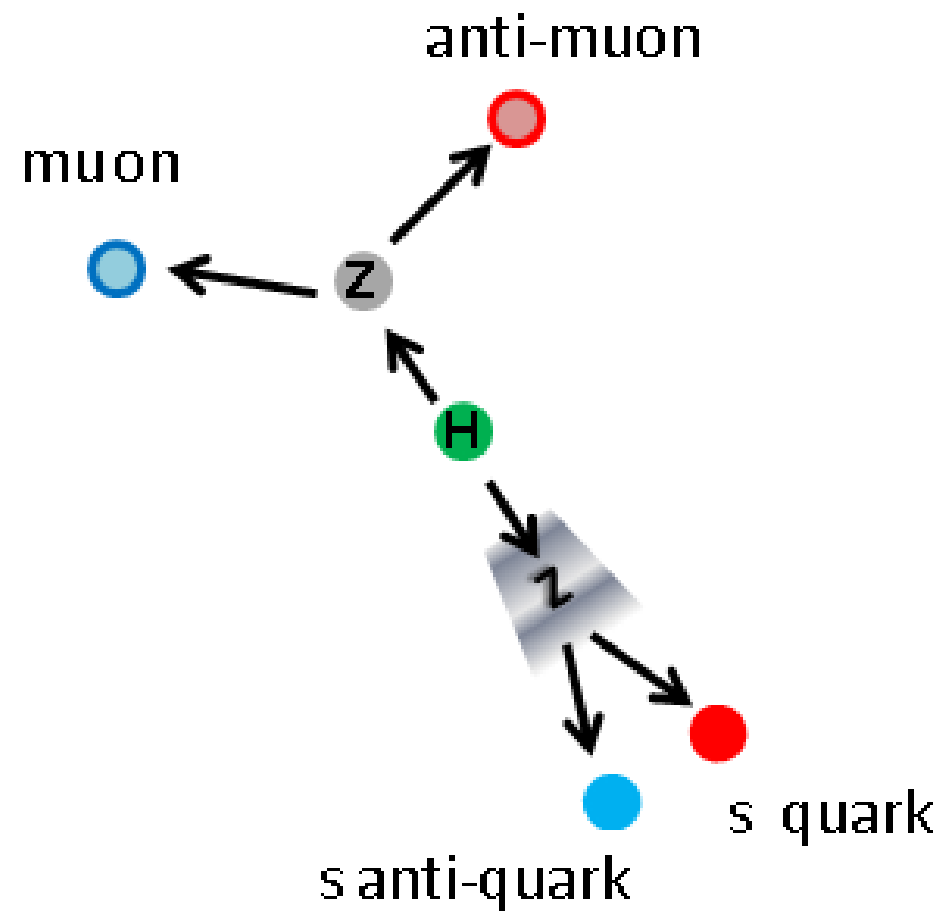
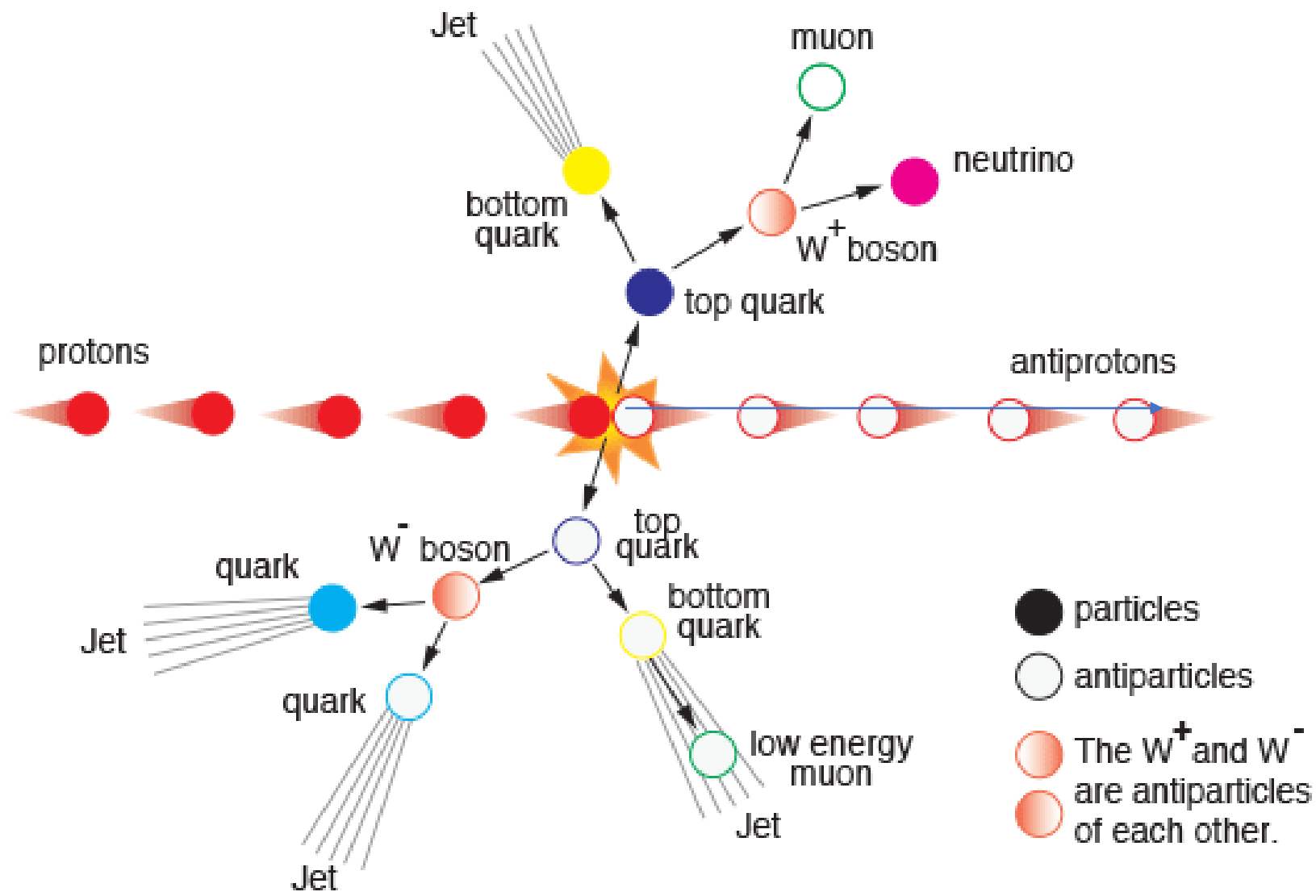
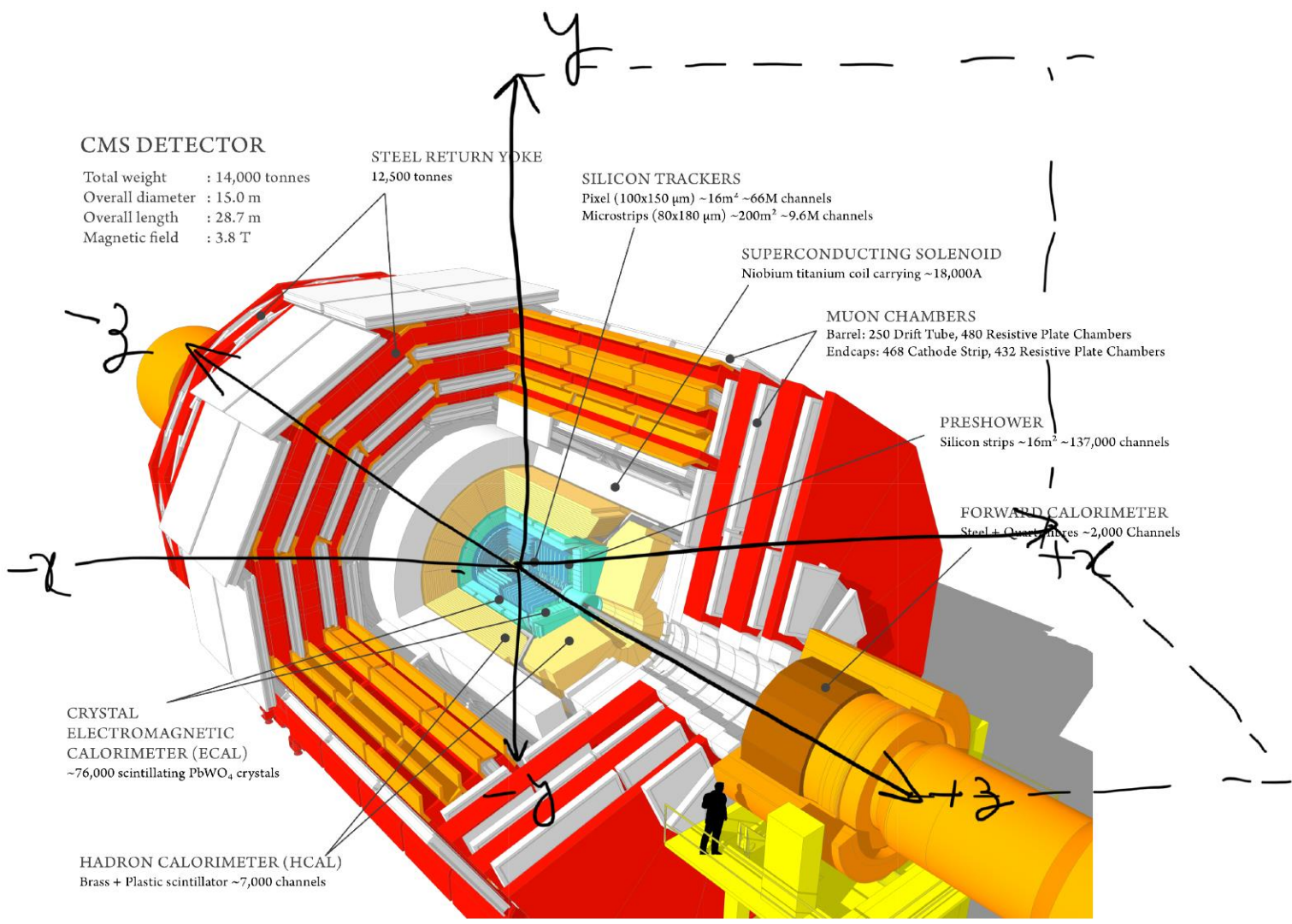


M. Strassler 2011



# A Top Quark - Antitop Quark Event from the D-Zero Detector at Fermilab





**CMS DETECTOR**

Total weight : 14,000 tonnes  
 Overall diameter : 15.0 m  
 Overall length : 28.7 m  
 Magnetic field : 3.8 T

STEEL RETURN YOKE  
 12,500 tonnes

SILICON TRACKERS  
 Pixel (100x150 μm) ~16m<sup>2</sup> ~66M channels  
 Microstrips (80x180 μm) ~200m<sup>2</sup> ~9.6M channels

SUPERCONDUCTING SOLENOID  
 Niobium titanium coil carrying ~18,000A

MUON CHAMBERS  
 Barrel: 250 Drift Tube, 480 Resistive Plate Chambers  
 Endcaps: 468 Cathode Strip, 432 Resistive Plate Chambers

PRESHOWER  
 Silicon strips ~16m<sup>2</sup> ~137,000 channels

FORWARD CALORIMETER  
 Steel + Quartz fibres ~2,000 Channels

CRYSTAL ELECTROMAGNETIC CALORIMETER (ECAL)  
 ~76,000 scintillating PbWO<sub>4</sub> crystals

HADRON CALORIMETER (HCAL)  
 Brass + Plastic scintillator ~7,000 channels

LHC Beam Pipe  
27Km Long



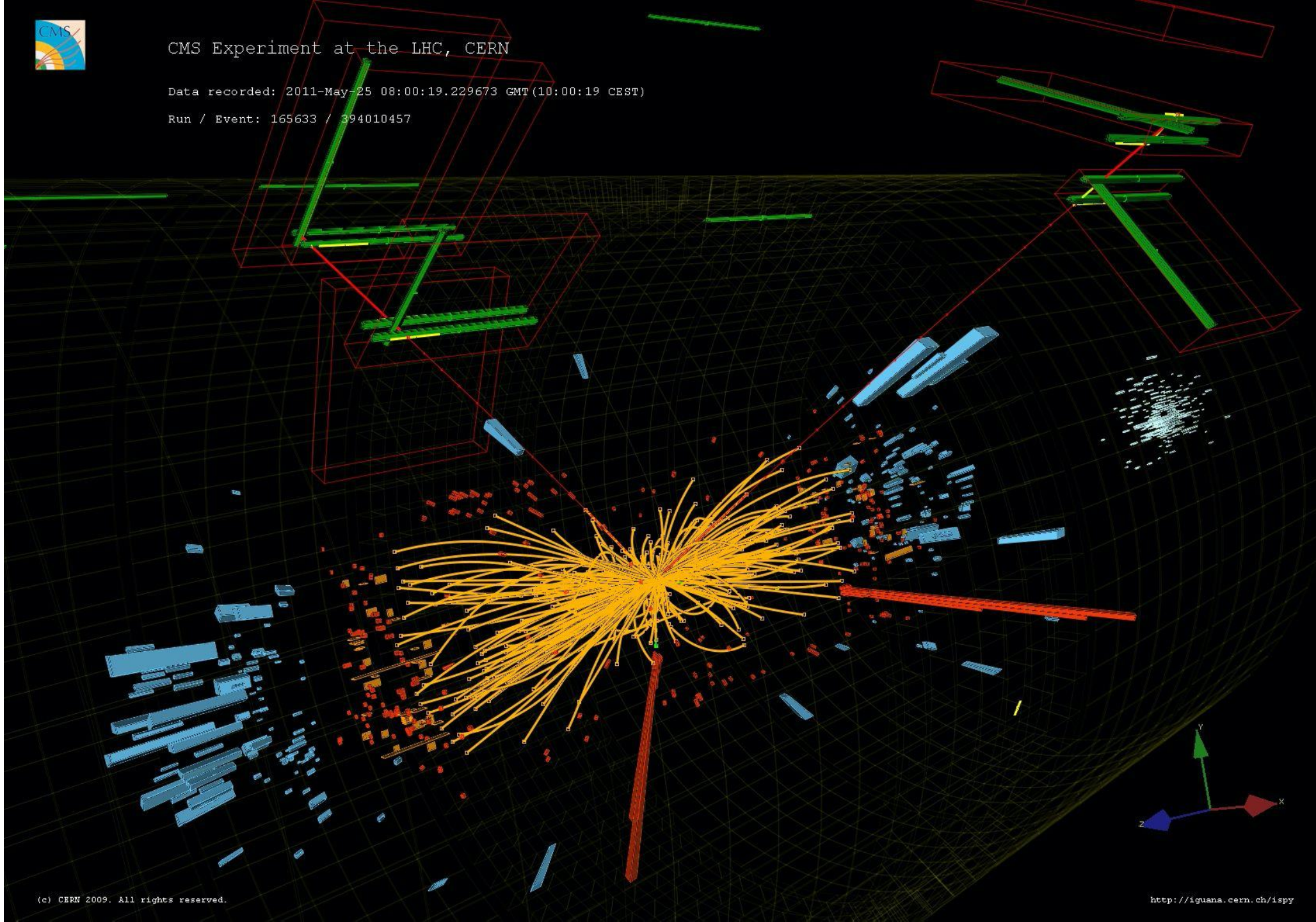




# CMS Experiment at the LHC, CERN

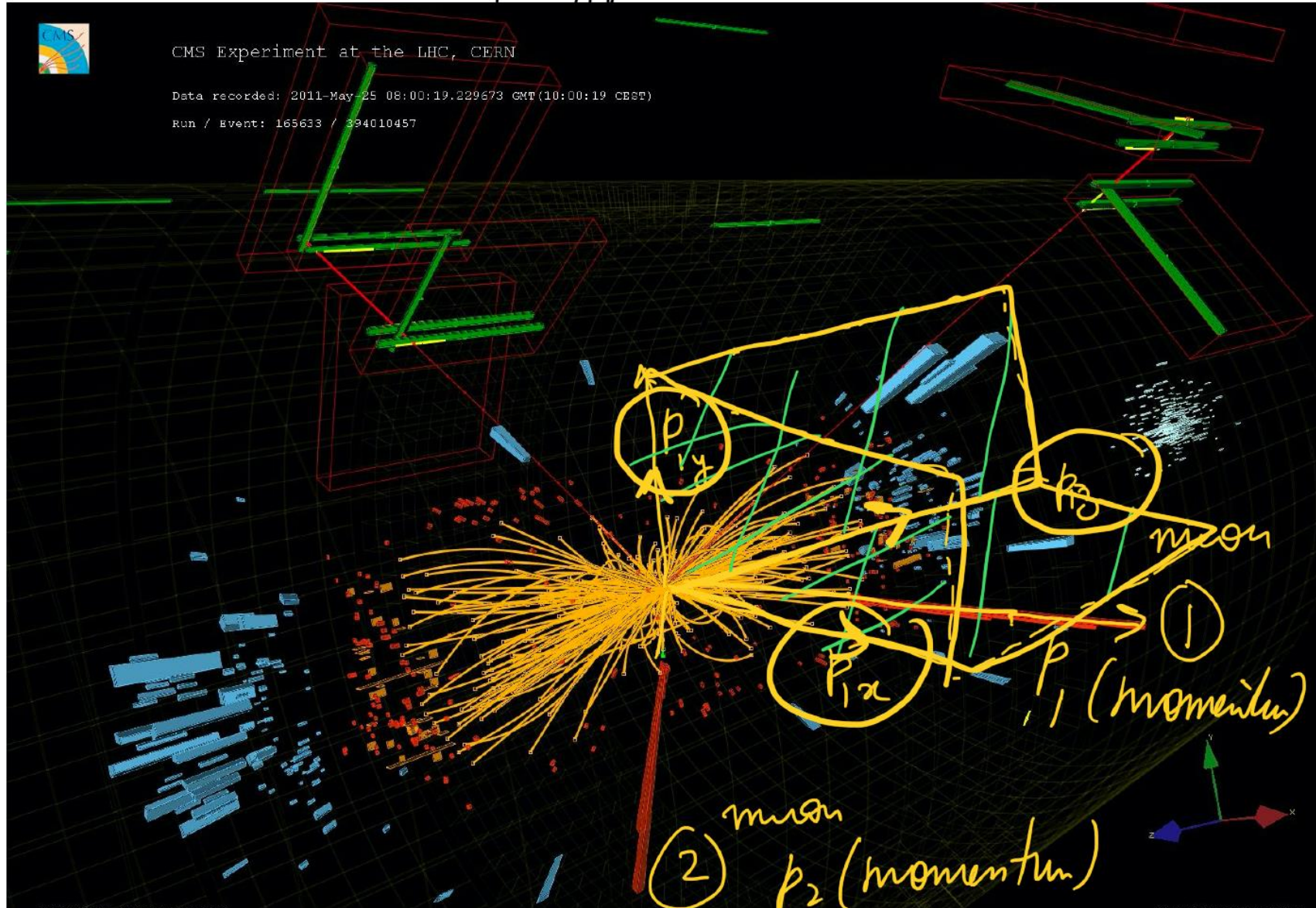
Data recorded: 2011-May-25 08:00:19.229673 GMT (10:00:19 CEST)

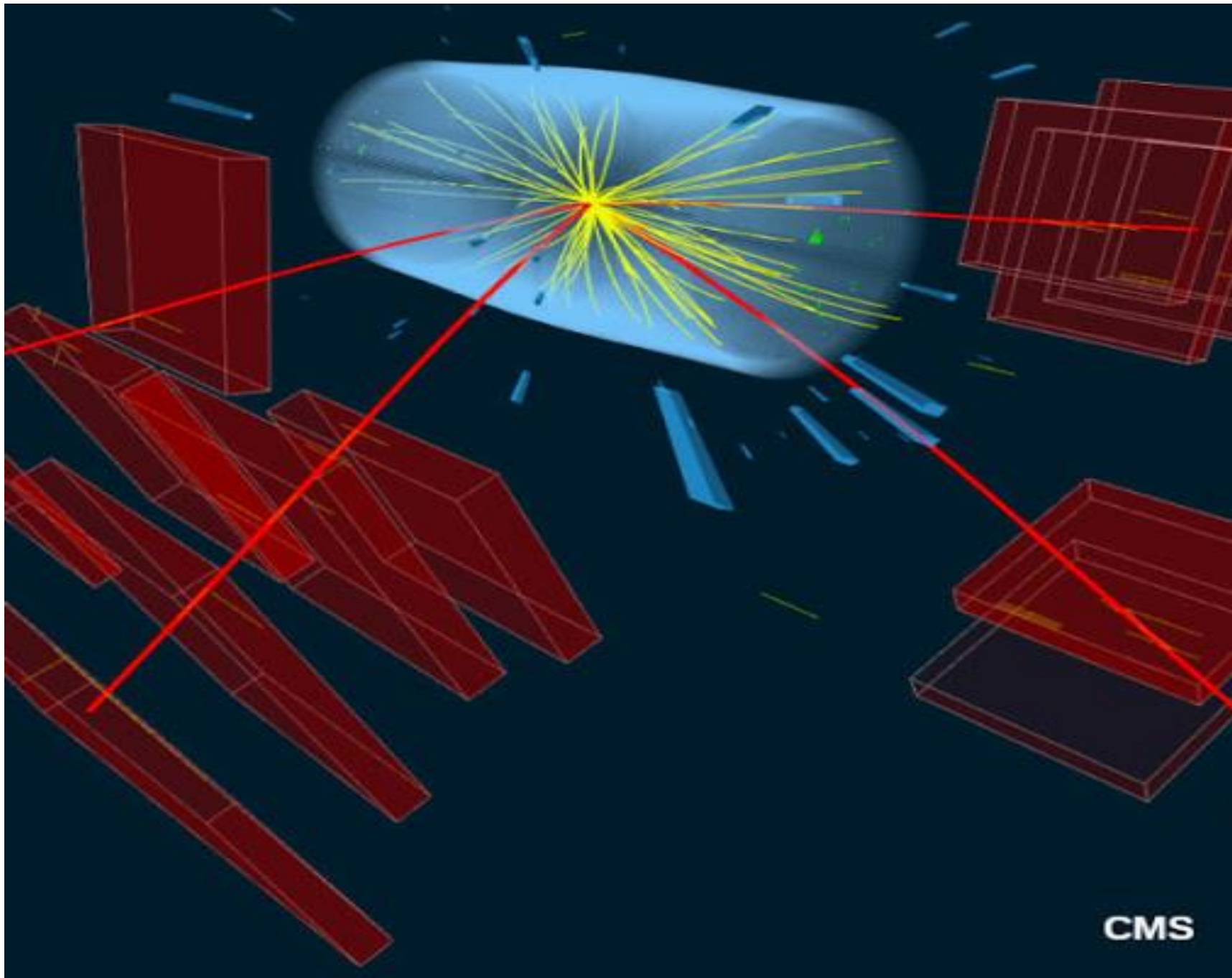
Run / Event: 165633 / 394010457





# Higgs to 2 muons





CMS



