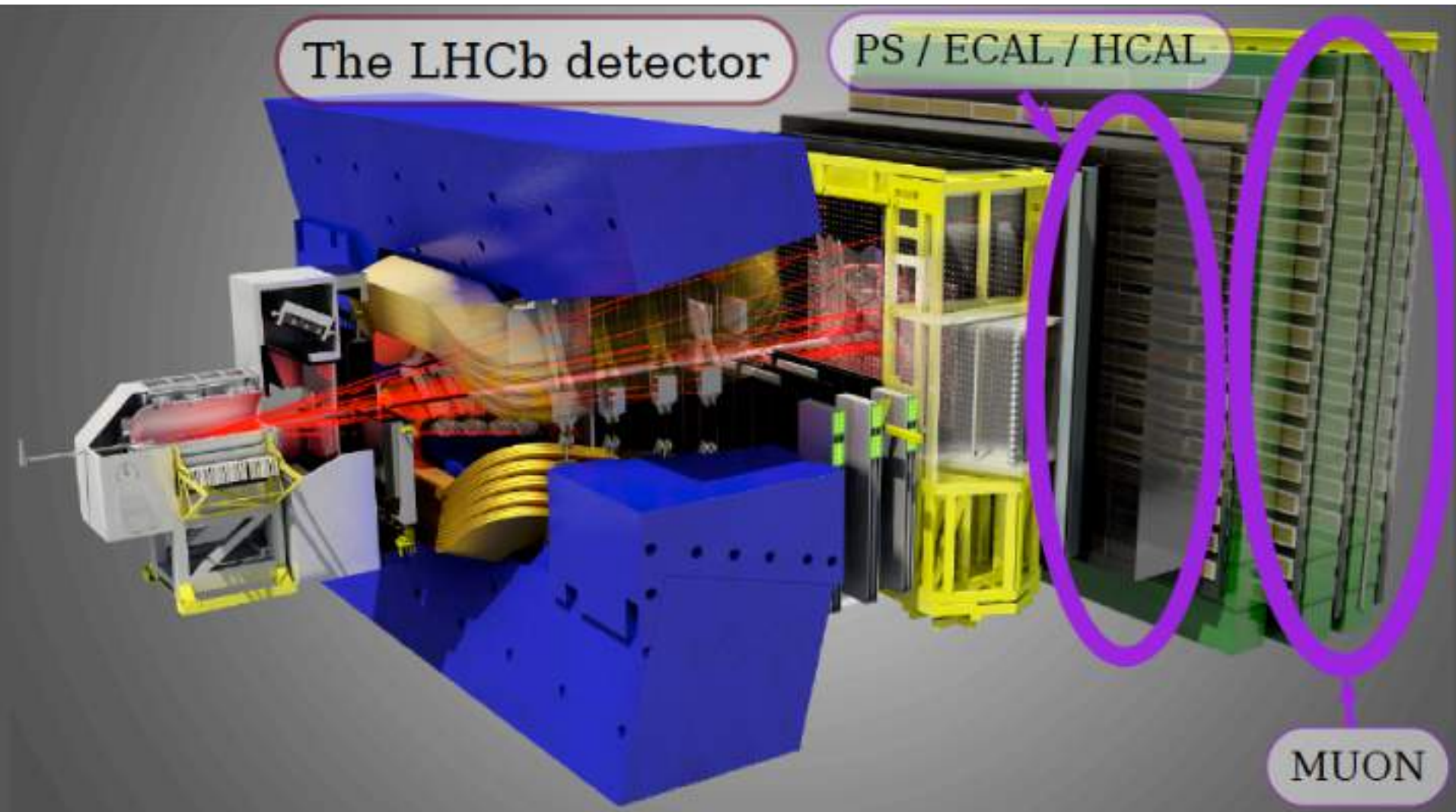
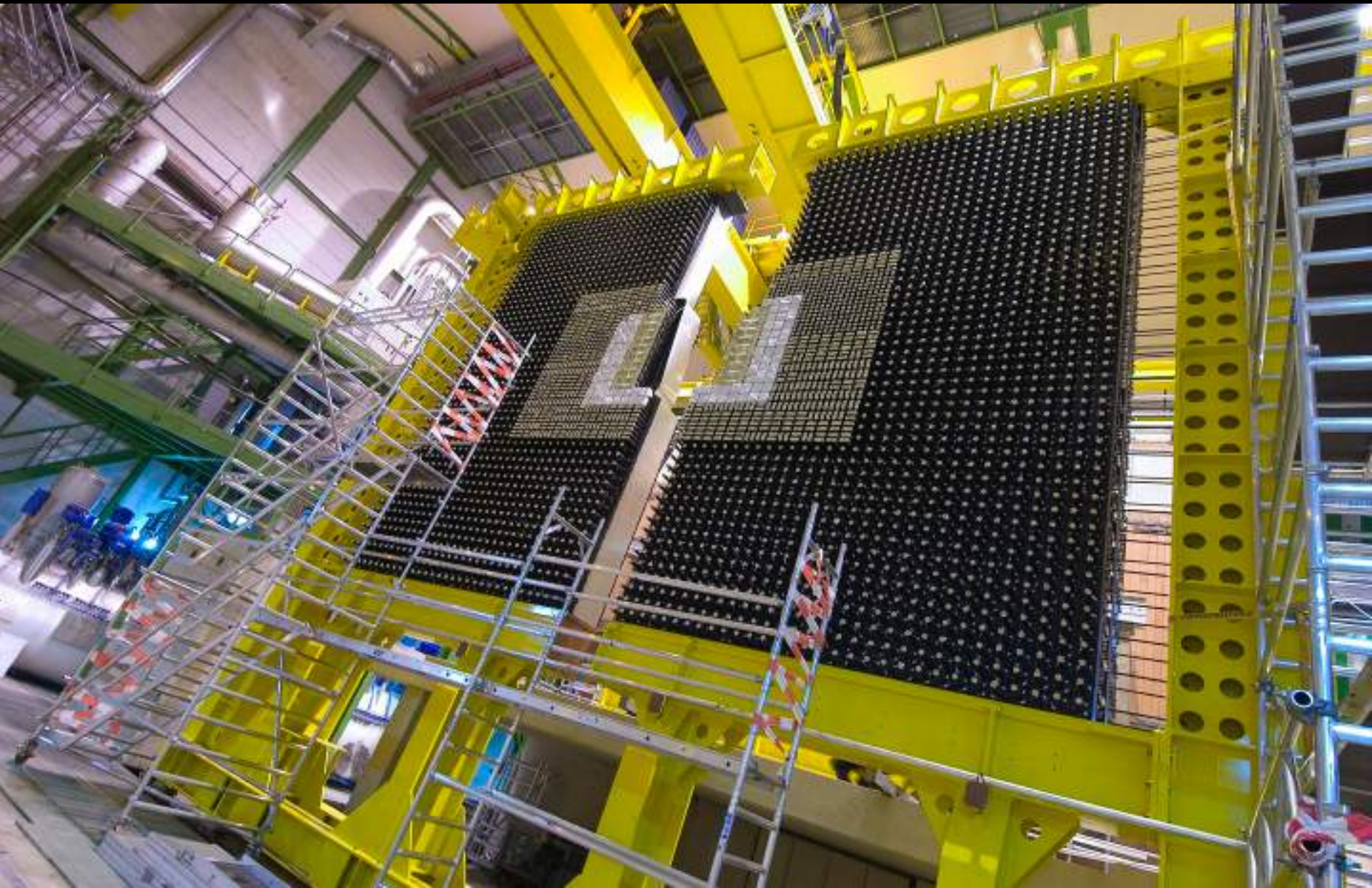


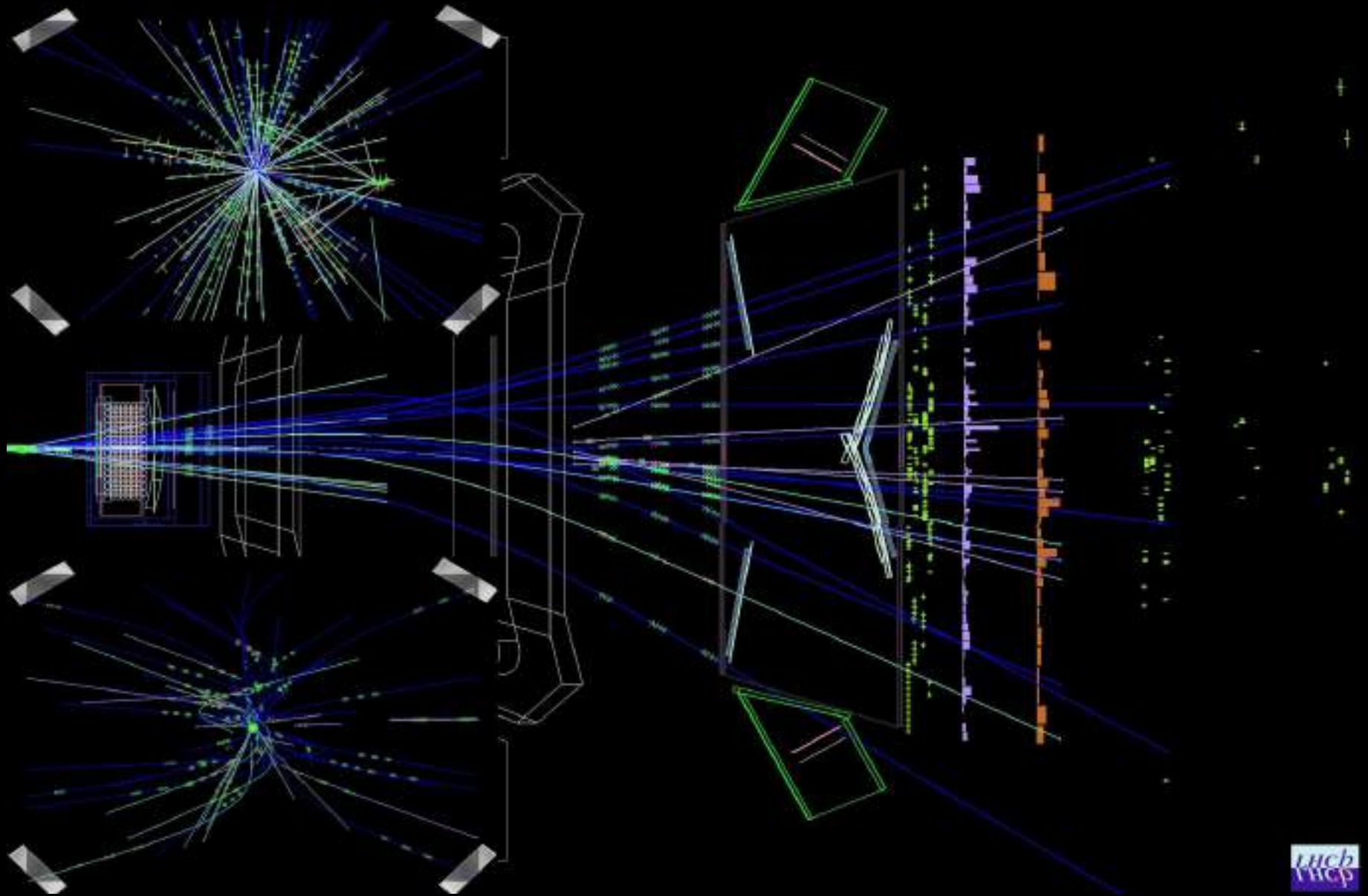
LHCb detector: calorimeter and muon systems





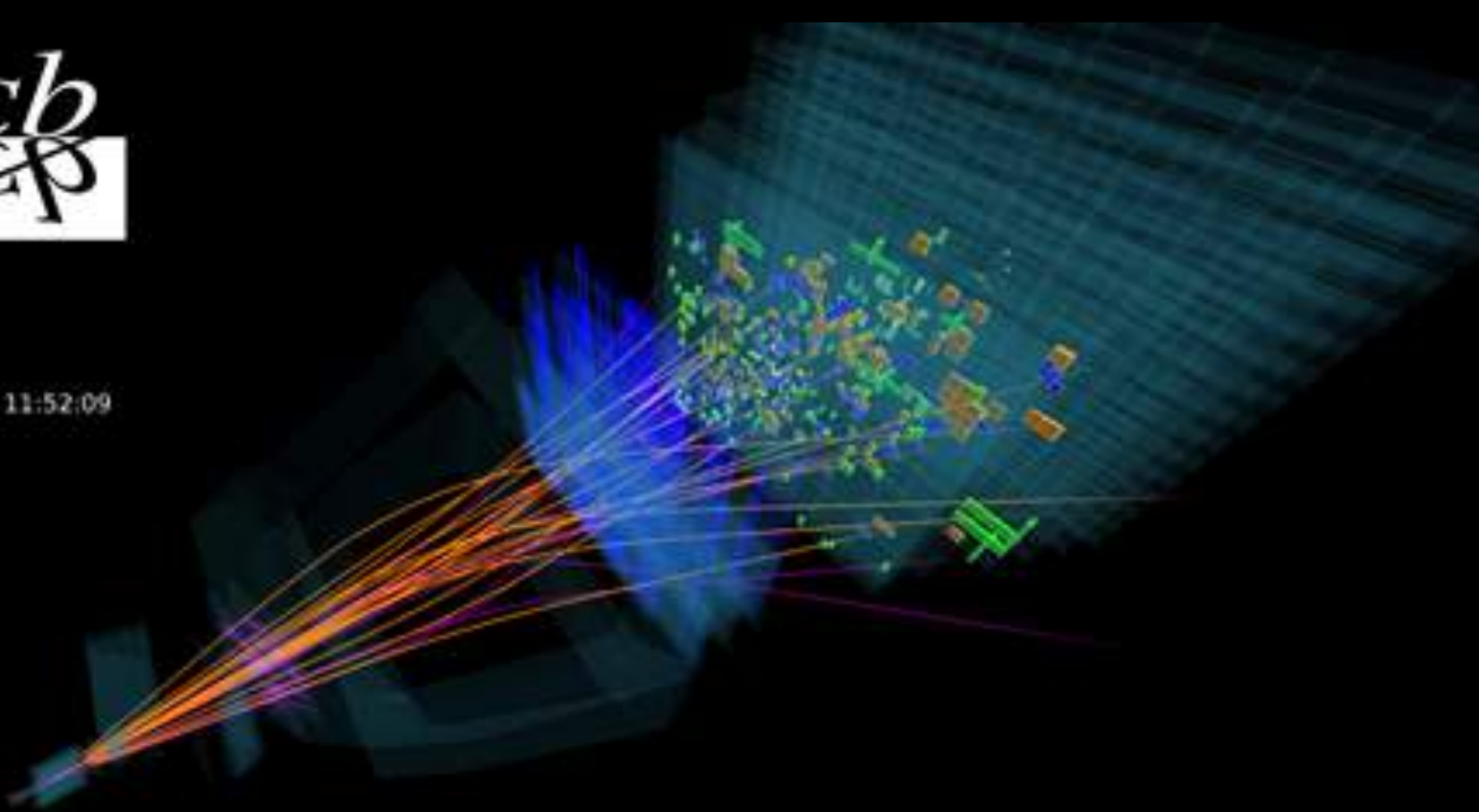


Event display





Event 41383468
Run 153460
Wed. 03 Jun 2015 11:52:09



Materia e Antimateria

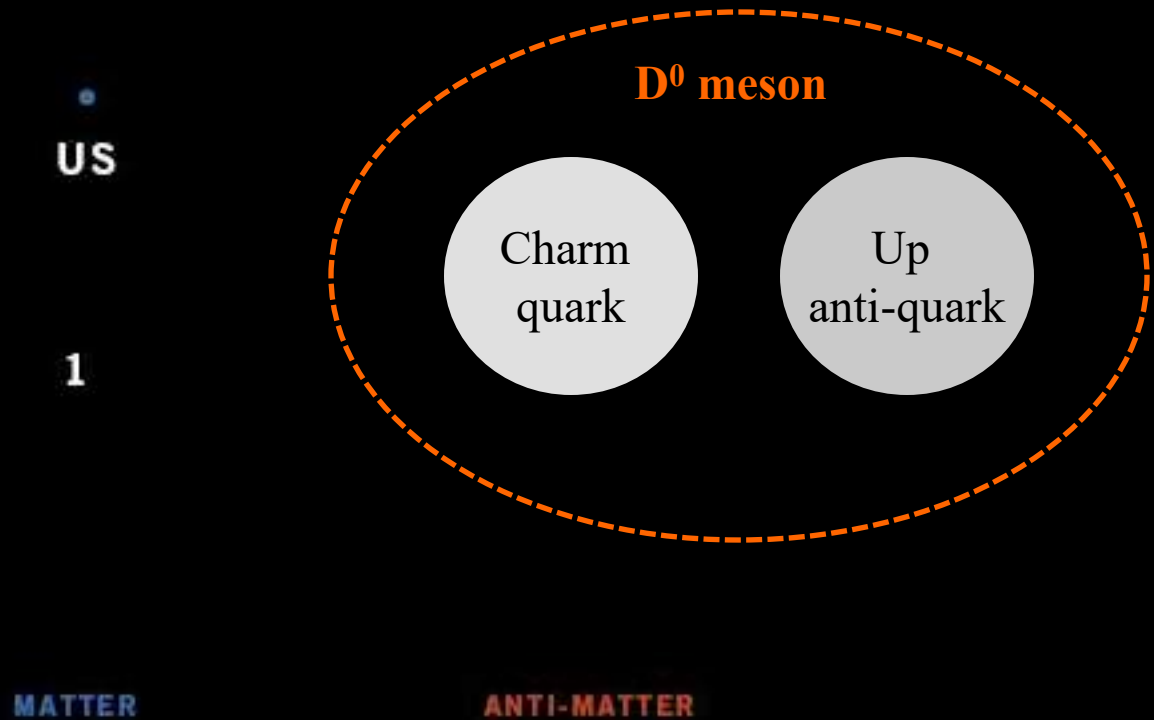
•
US

1

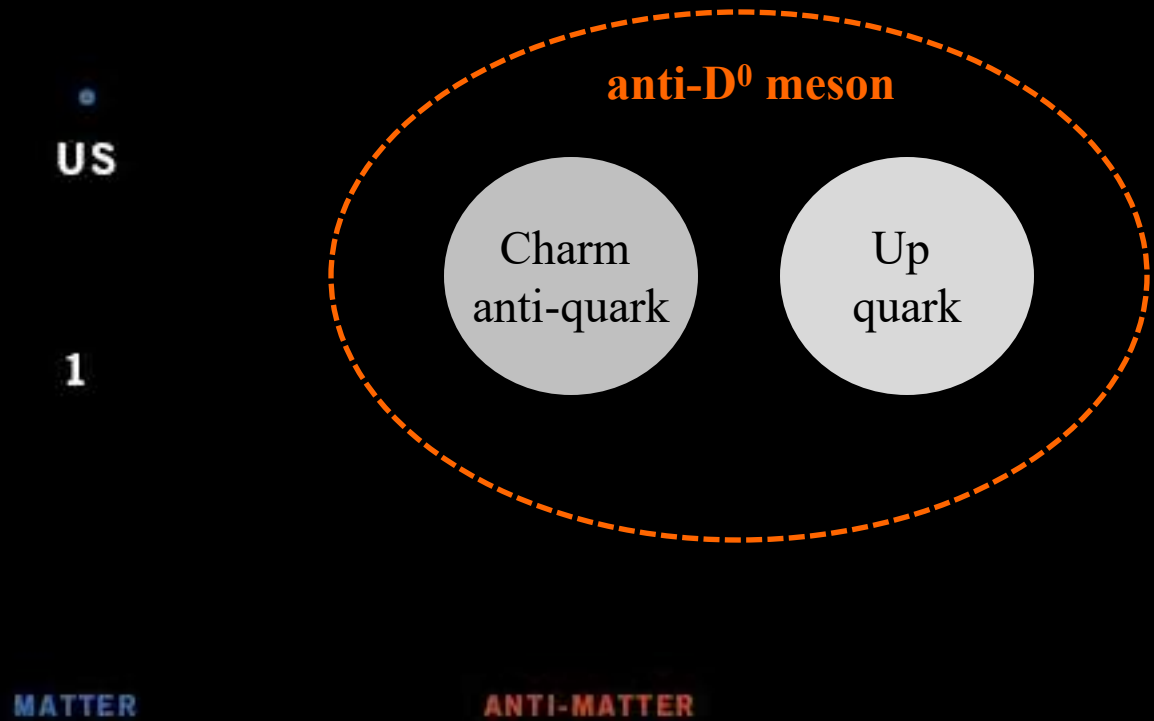
MATTER

ANTI-MATTER

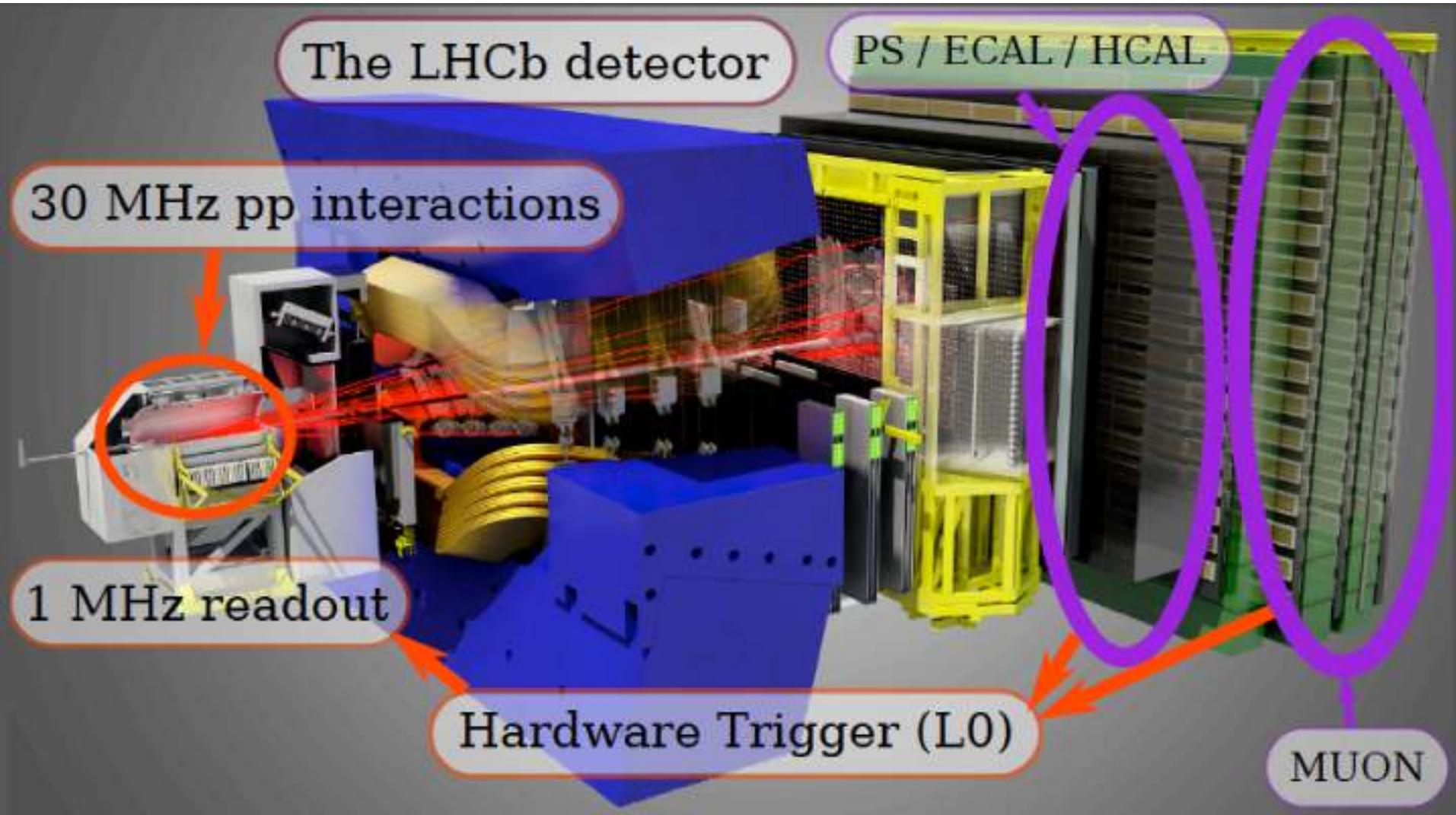
Materia e Antimateria



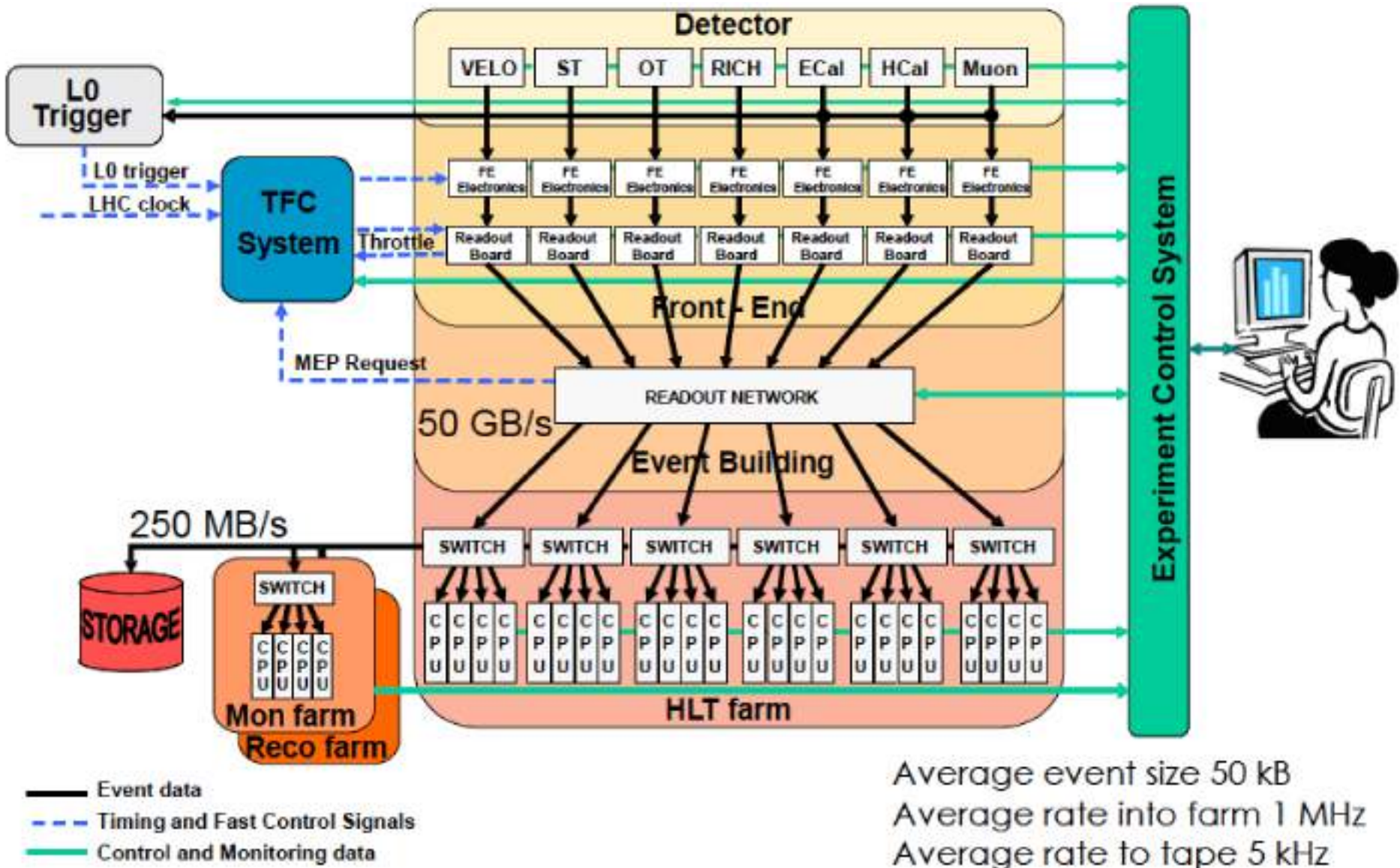
Materia e Antimateria

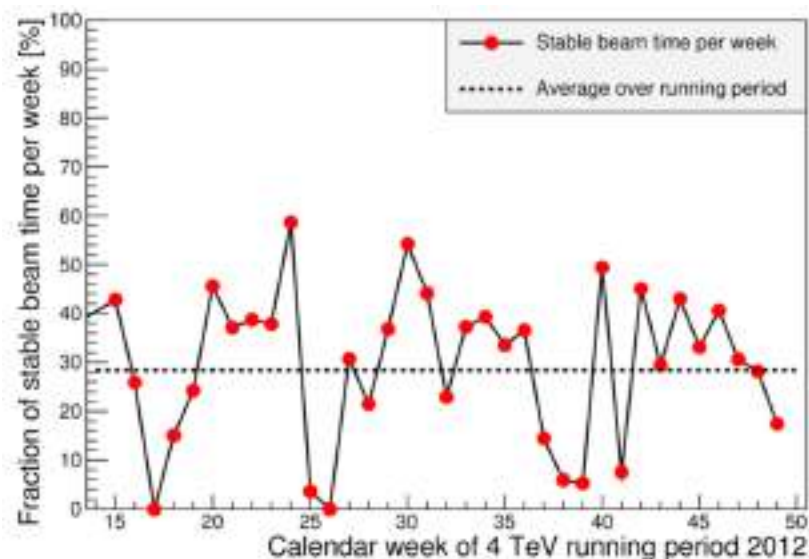
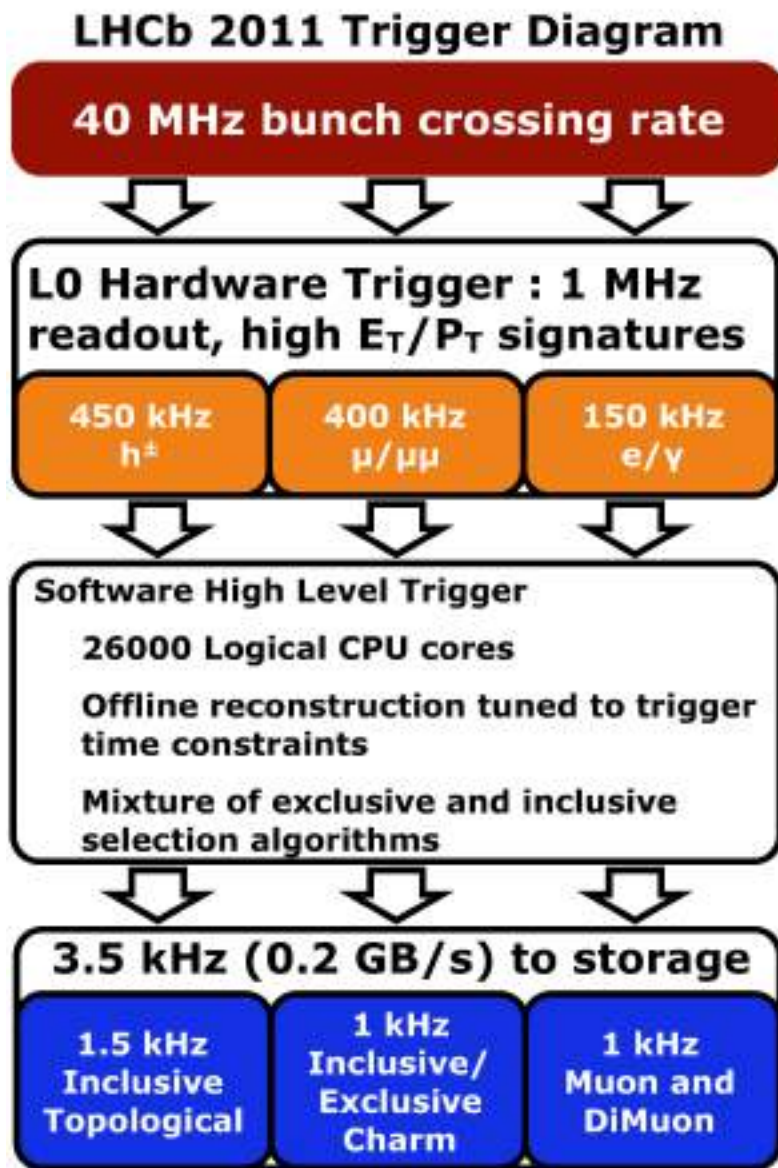


Hardware trigger



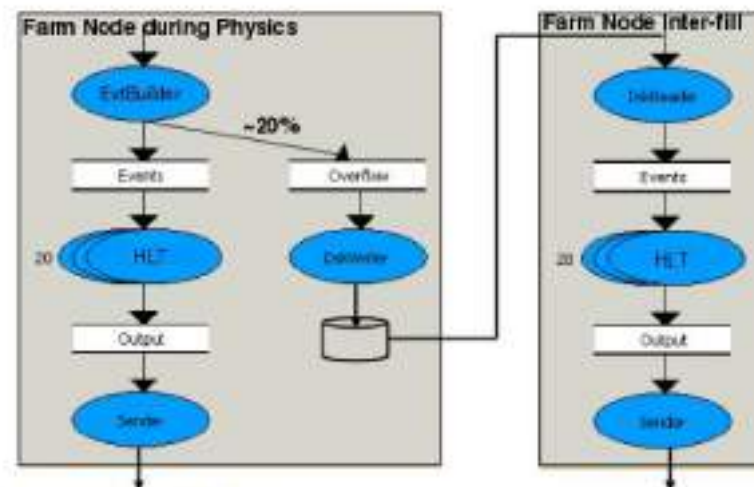
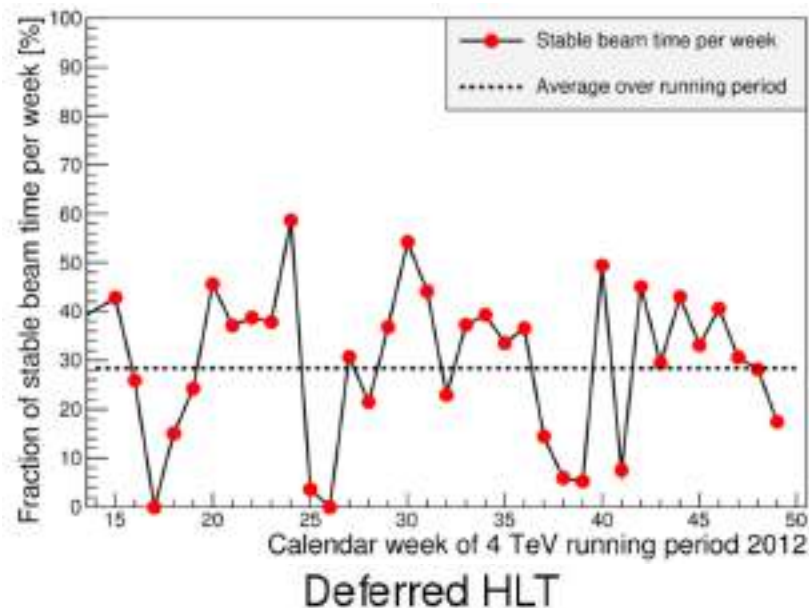
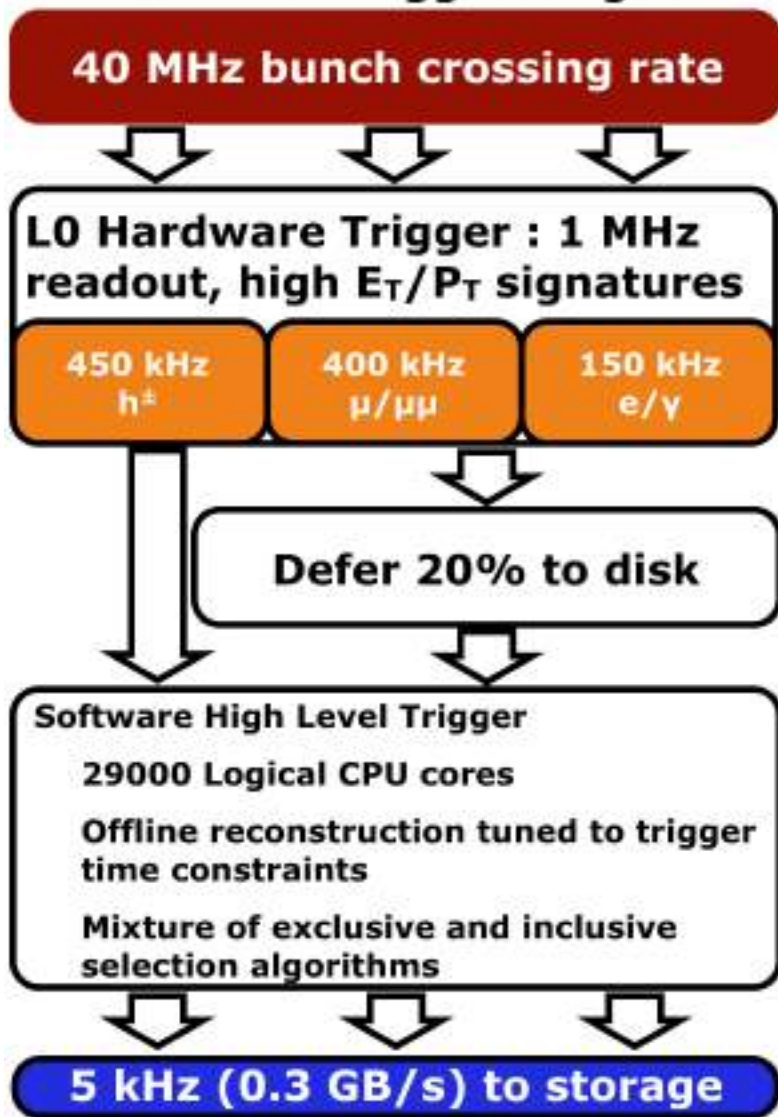
Collect data (DAQ)





- The average fraction of stable beams time per week was $\sim 30\%$
- Try to defer computing needs to time without beams

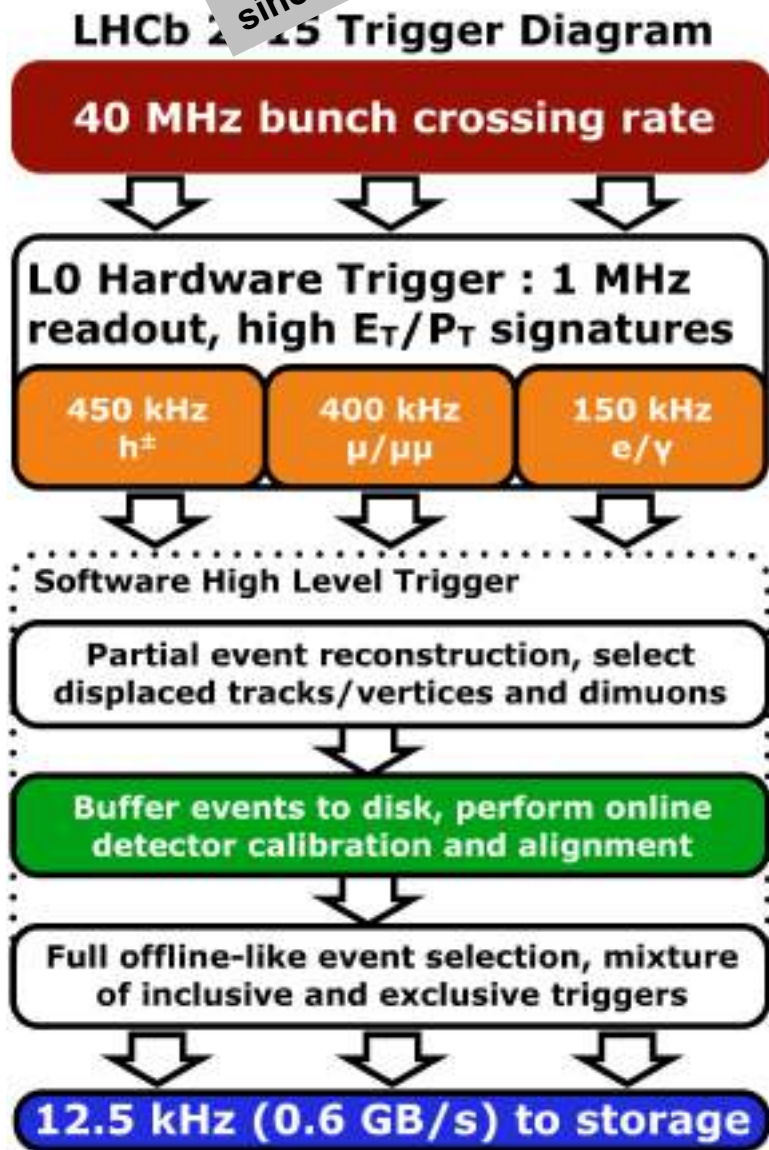
LHCb 2012 Trigger Diagram



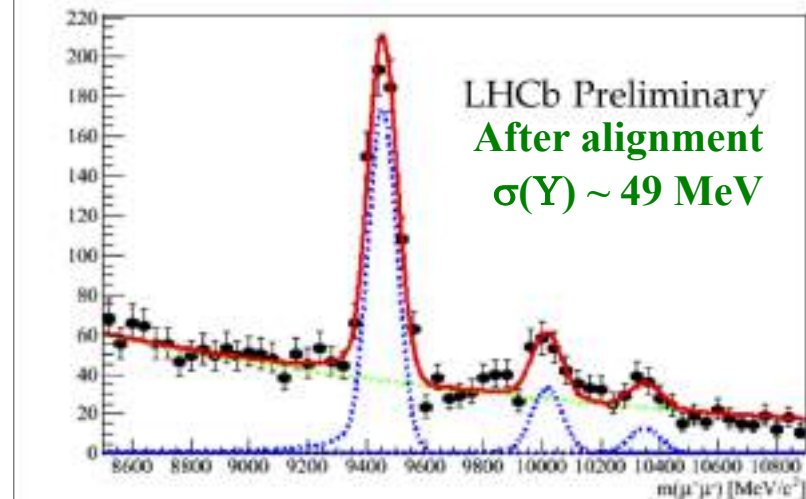
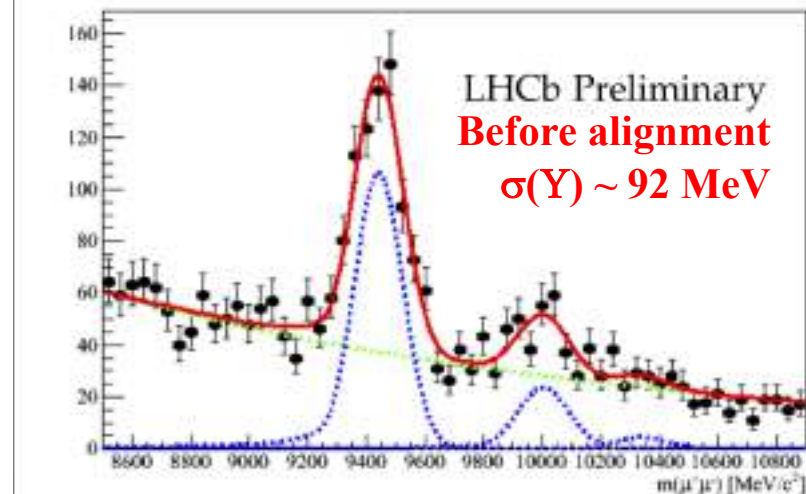
~50k logical cores
~5PiB disk space

since 2015

Trigger
[Run 2]

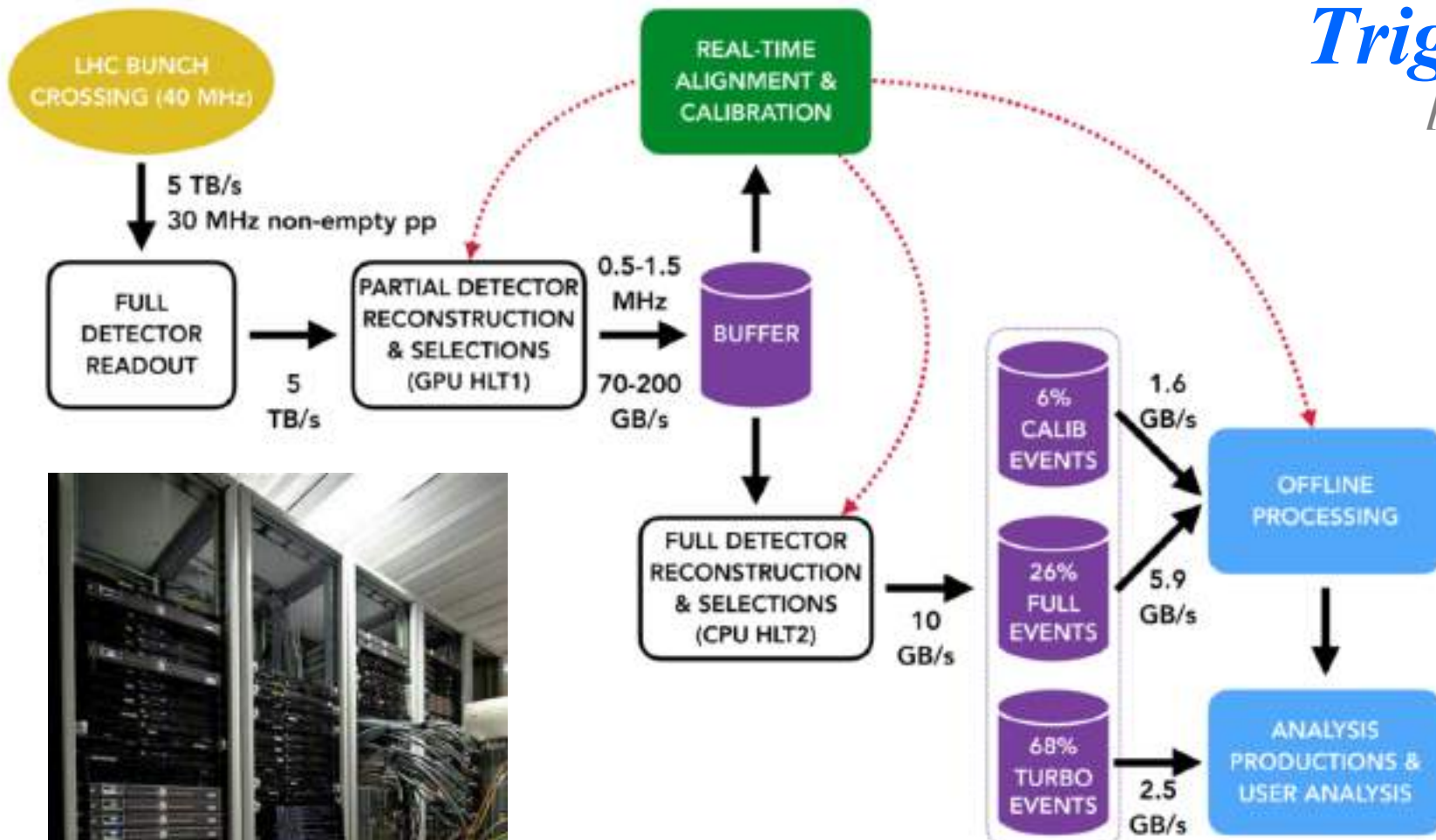


Same online and offline reconstruction and PID
- prompt alignment and calibration
- completely automatic and almost in real-time



Trigger

[Run 3]

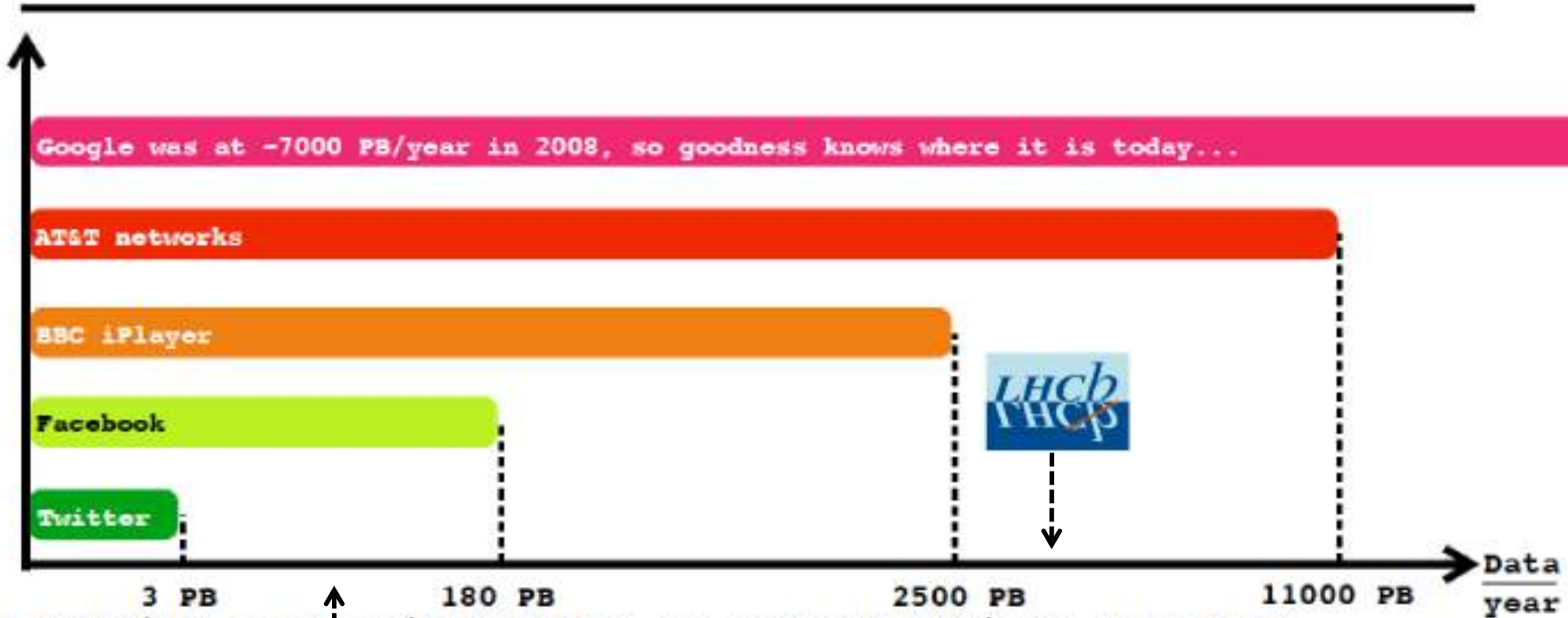


Data (2016)

Input data rate of the LHCb experiment today - 1 TB/second



This means about 4000 PB of data every year



NB : ATLAS/CMS about a bit more than one order of magnitude above LHCb

NETFLIX

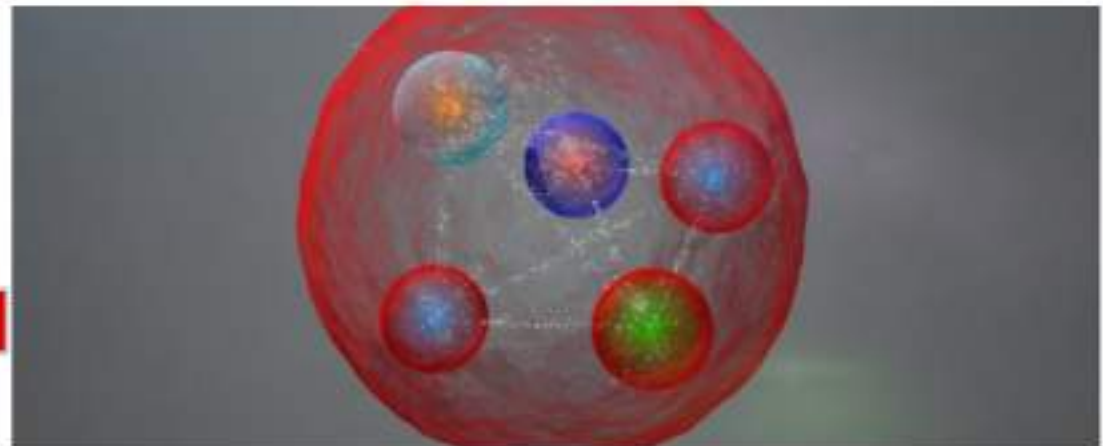
[40 PB, entire movie catalogue in 2016]

Cern, scoperta la particella Xi: "Inseguita da anni, ci aiuterà a capire cosa tiene insieme la materia"



IlFattoQuotidiano.it / Scienza

Scoperta dal Cern la particella Xi: "È come un sistema planetario in miniatura"

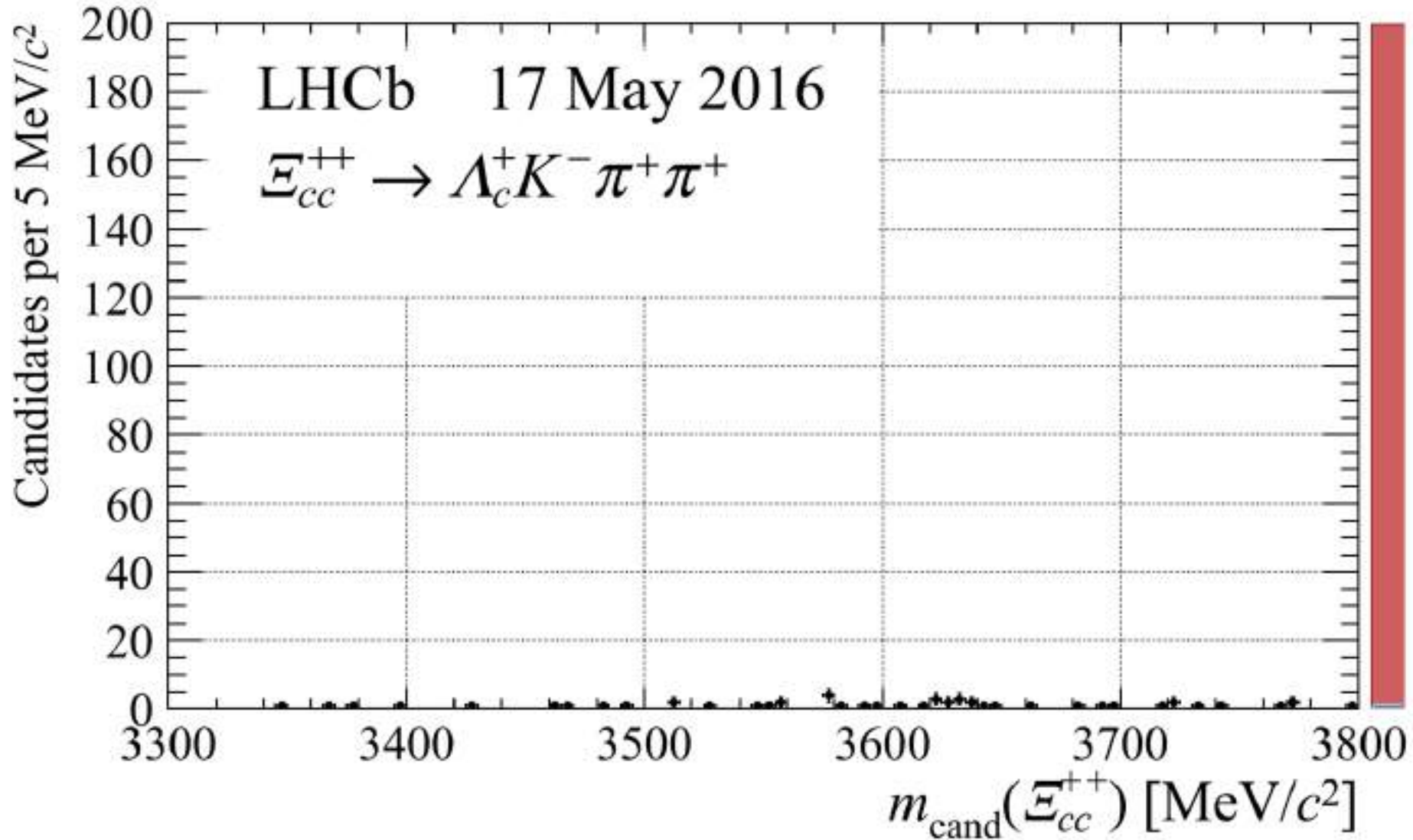


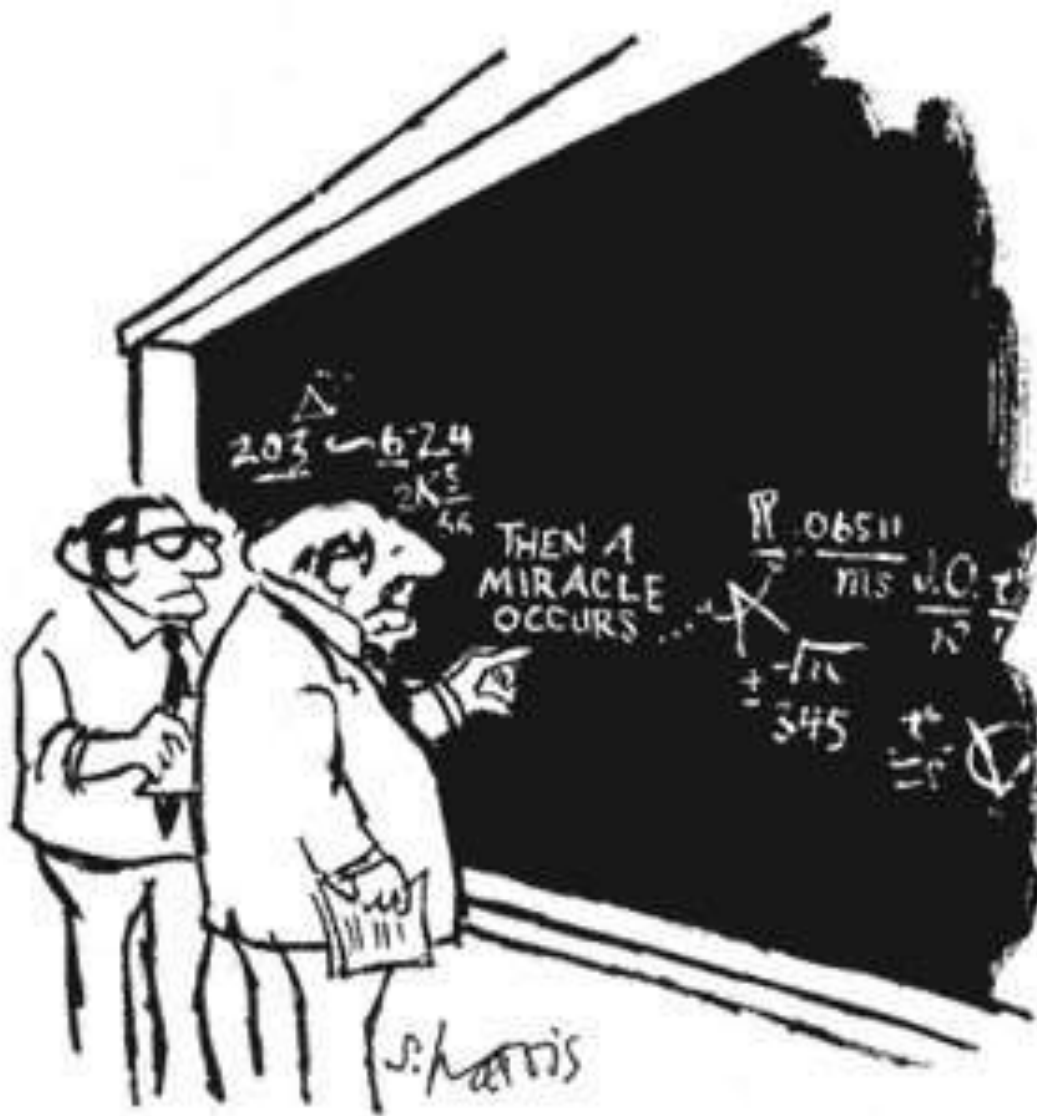
La scoperta, annunciata nella conferenza della Società Europea di Fisica e grazie all'acceleratore più grande del mondo, il Large Hadron Collider (Lhc)

di ELENA DUSI

La scoperta, annunciata nella conferenza della Società Europea di Fisica in corso a Venezia e in via di pubblicazione sulla rivista *Physical Review Letters*, è avvenuta grazie all'acceleratore più grande del mondo, il Large Hadron Collider (Lhc). Gli scienziati: "Ci aiuterà a capire cosa tiene insieme la materia"

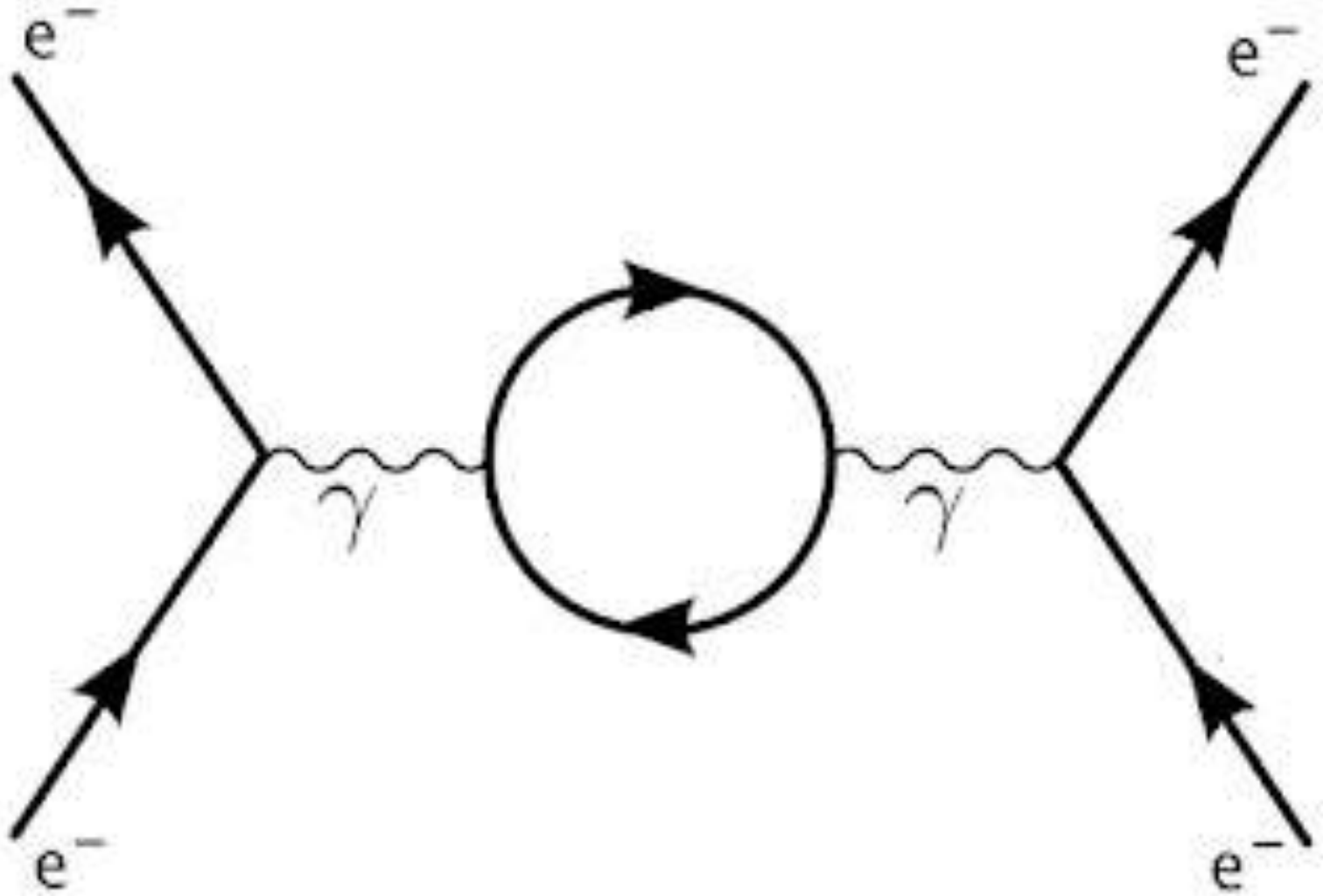
di Davide Patitucci | 6 luglio 2017



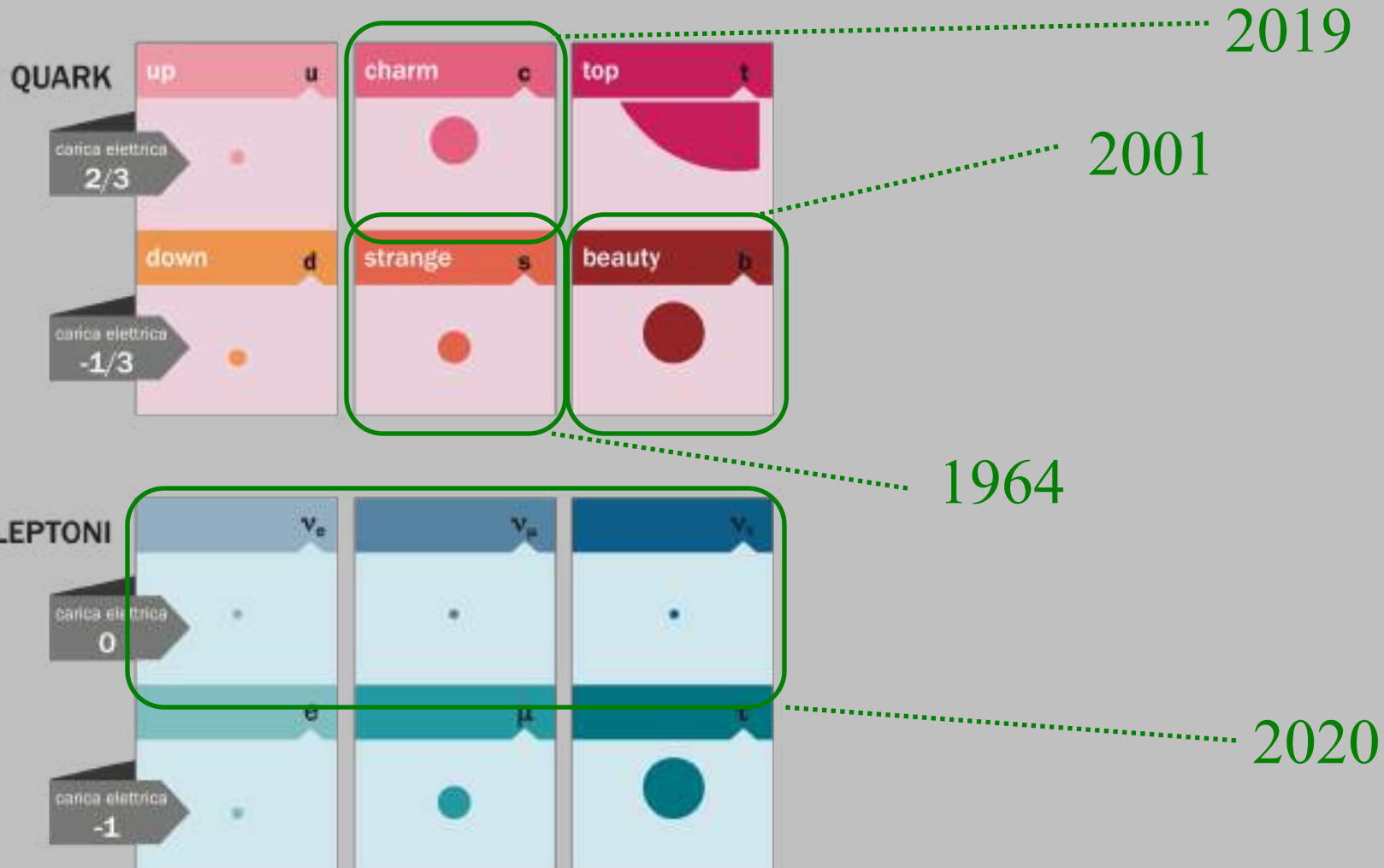


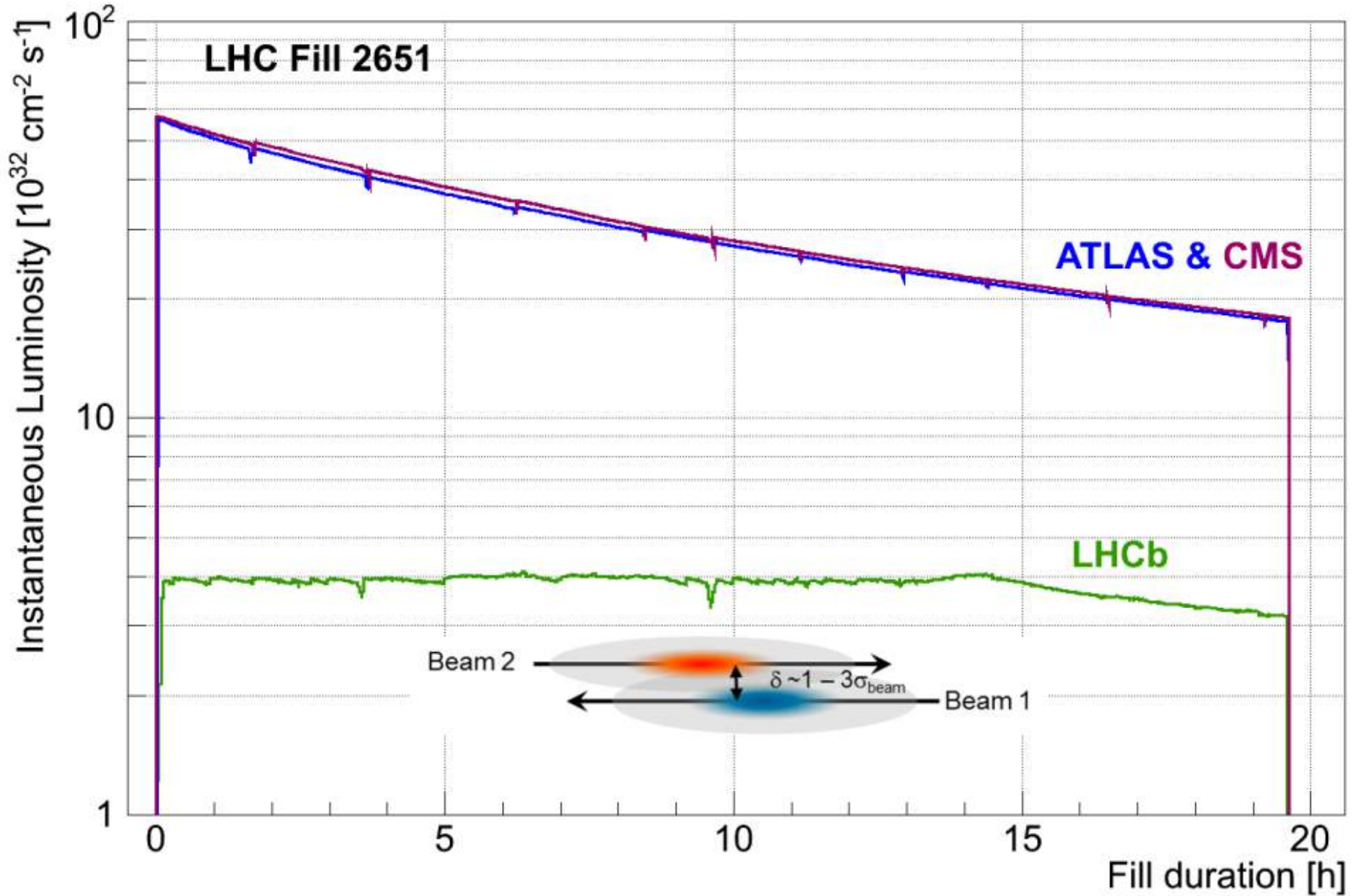
"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

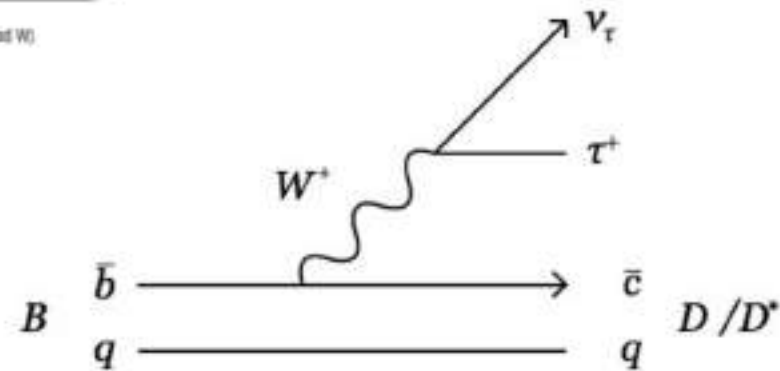
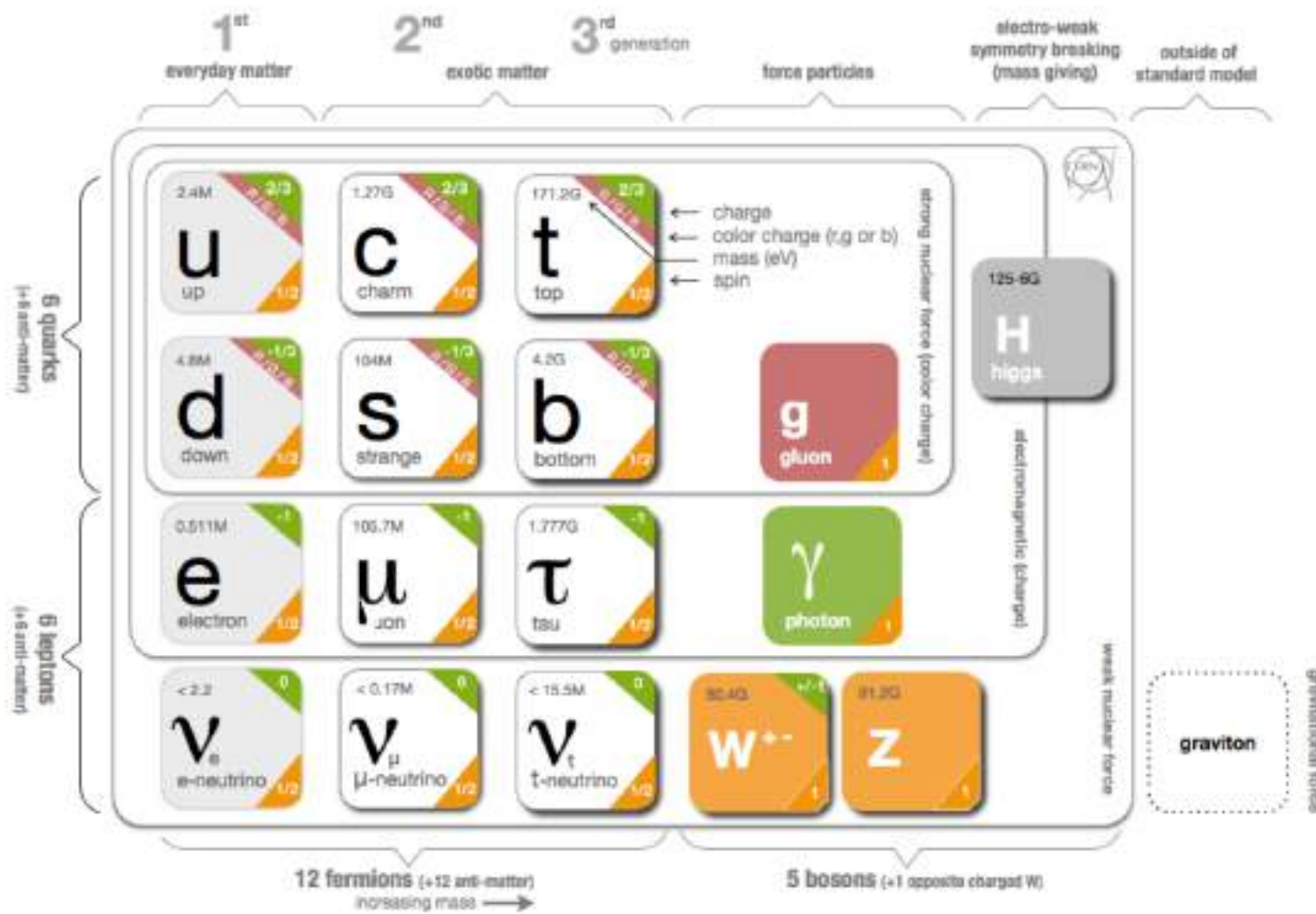
Particelle virtuali



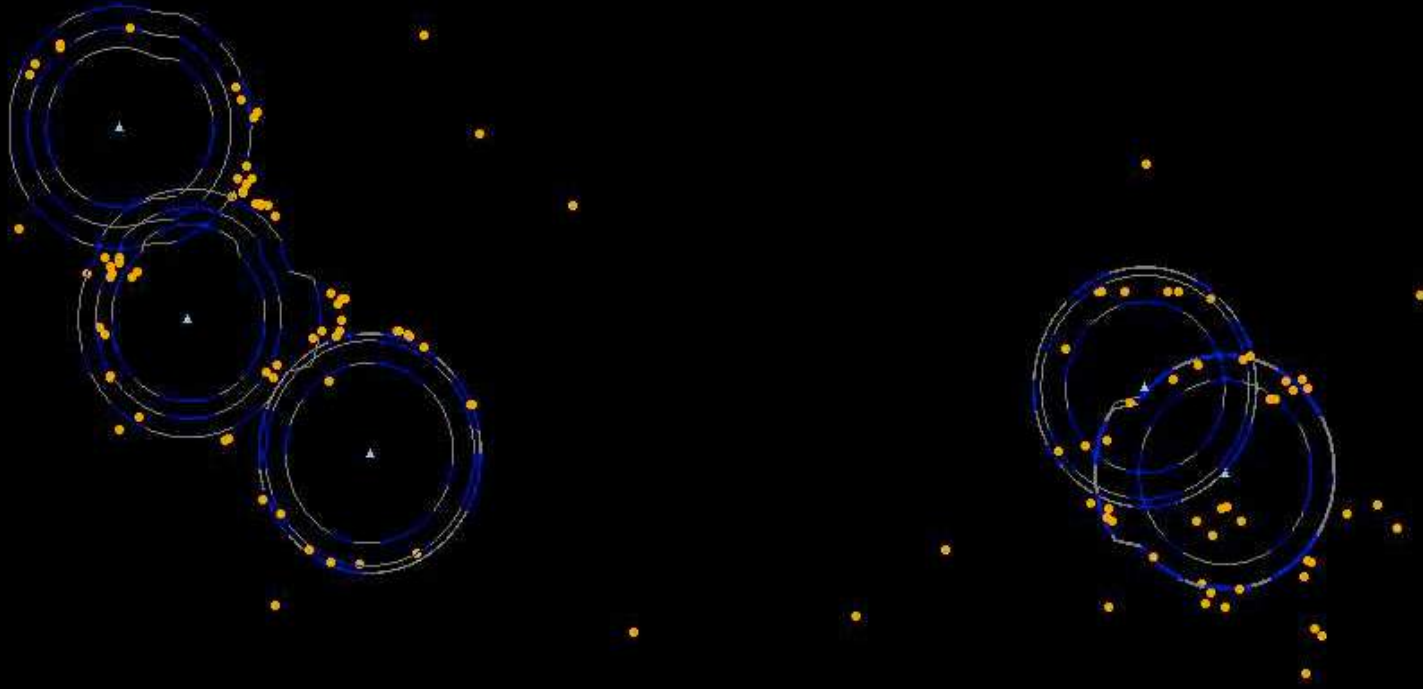
Differenza tra materia e antimateria

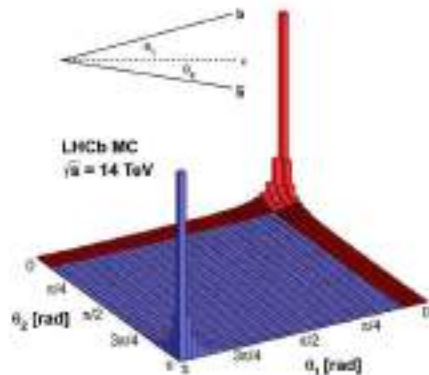
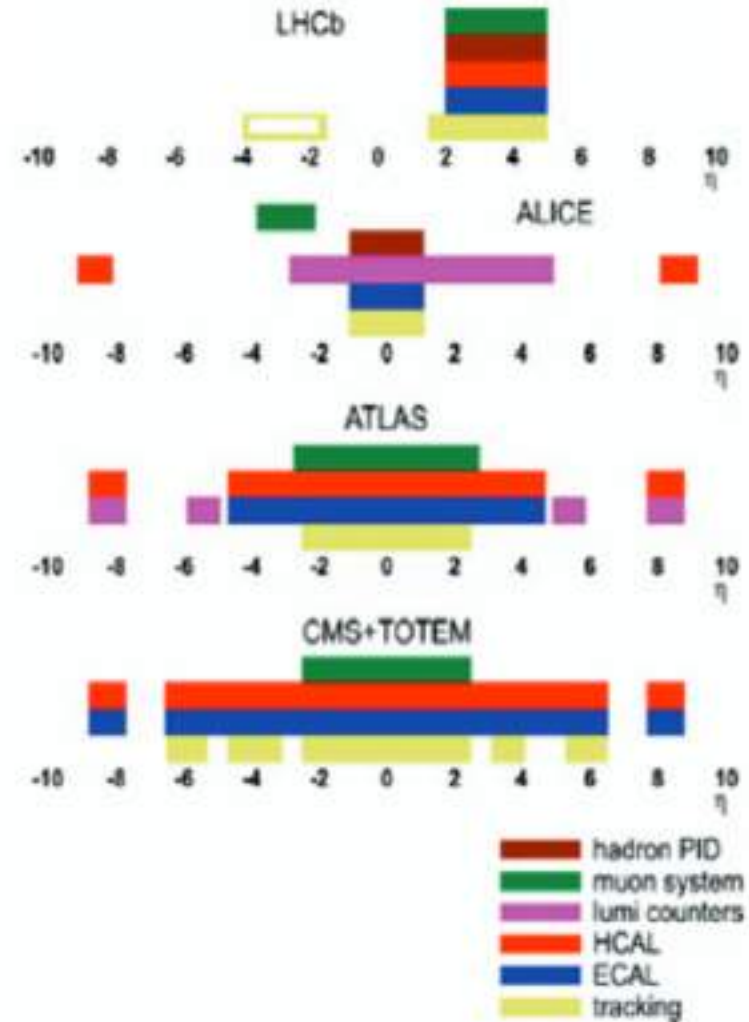
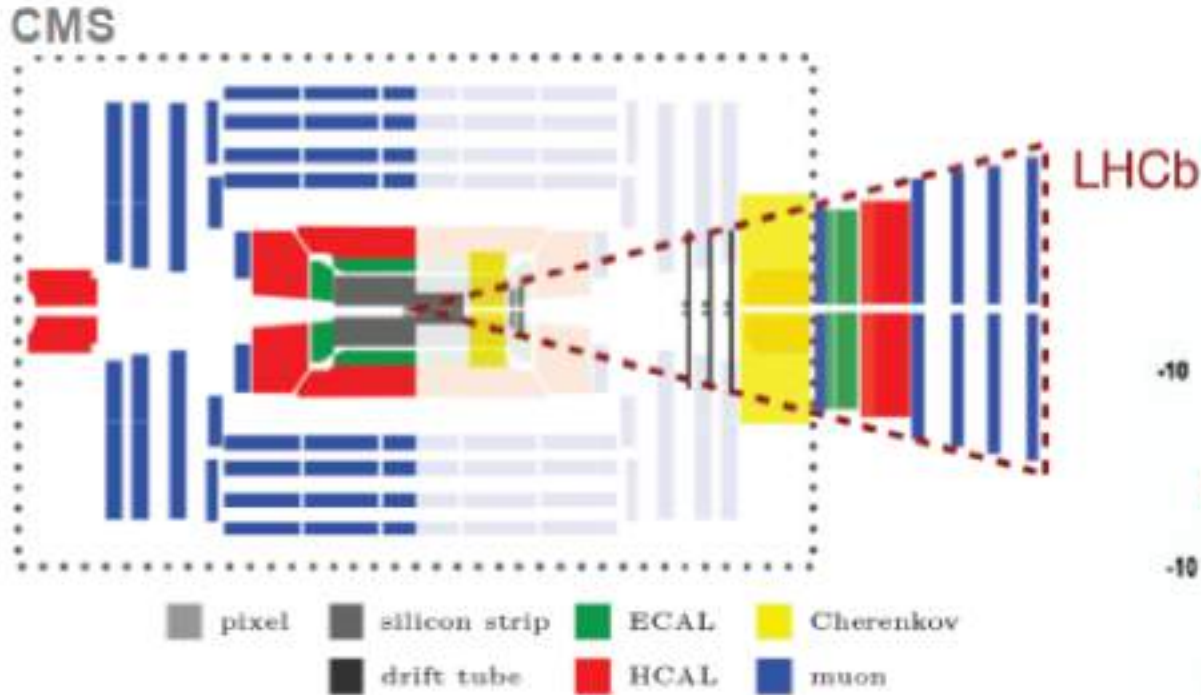






Effetto Cherenkov





Evento a LHCb

