



# Alice Masterclass

Catania, 26 febbraio 2025



# Analisi dei dati

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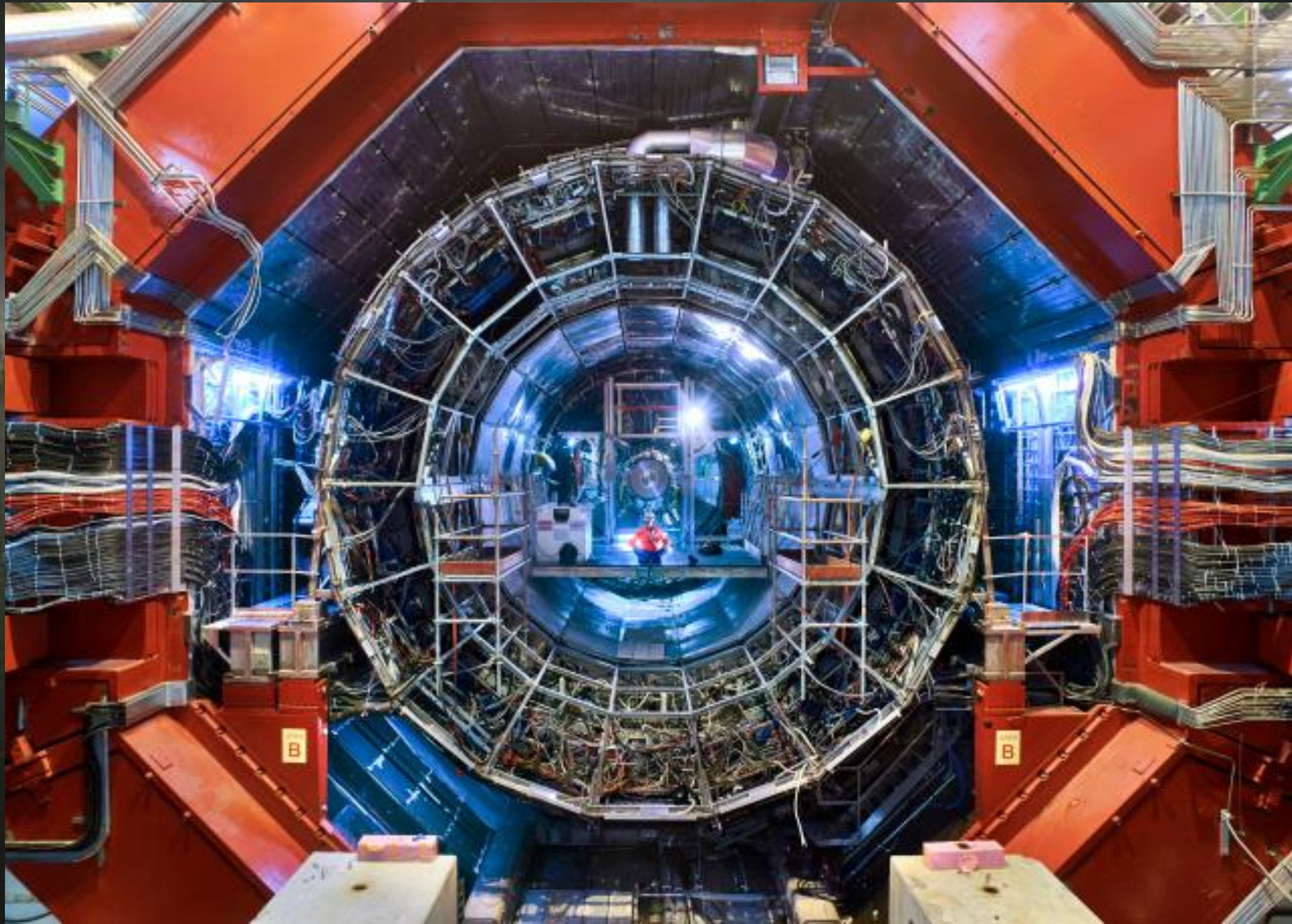
Dipartimento di Scienze MIFT

&

Istituto Nazionale di Fisica Nucleare - Sez. di Catania

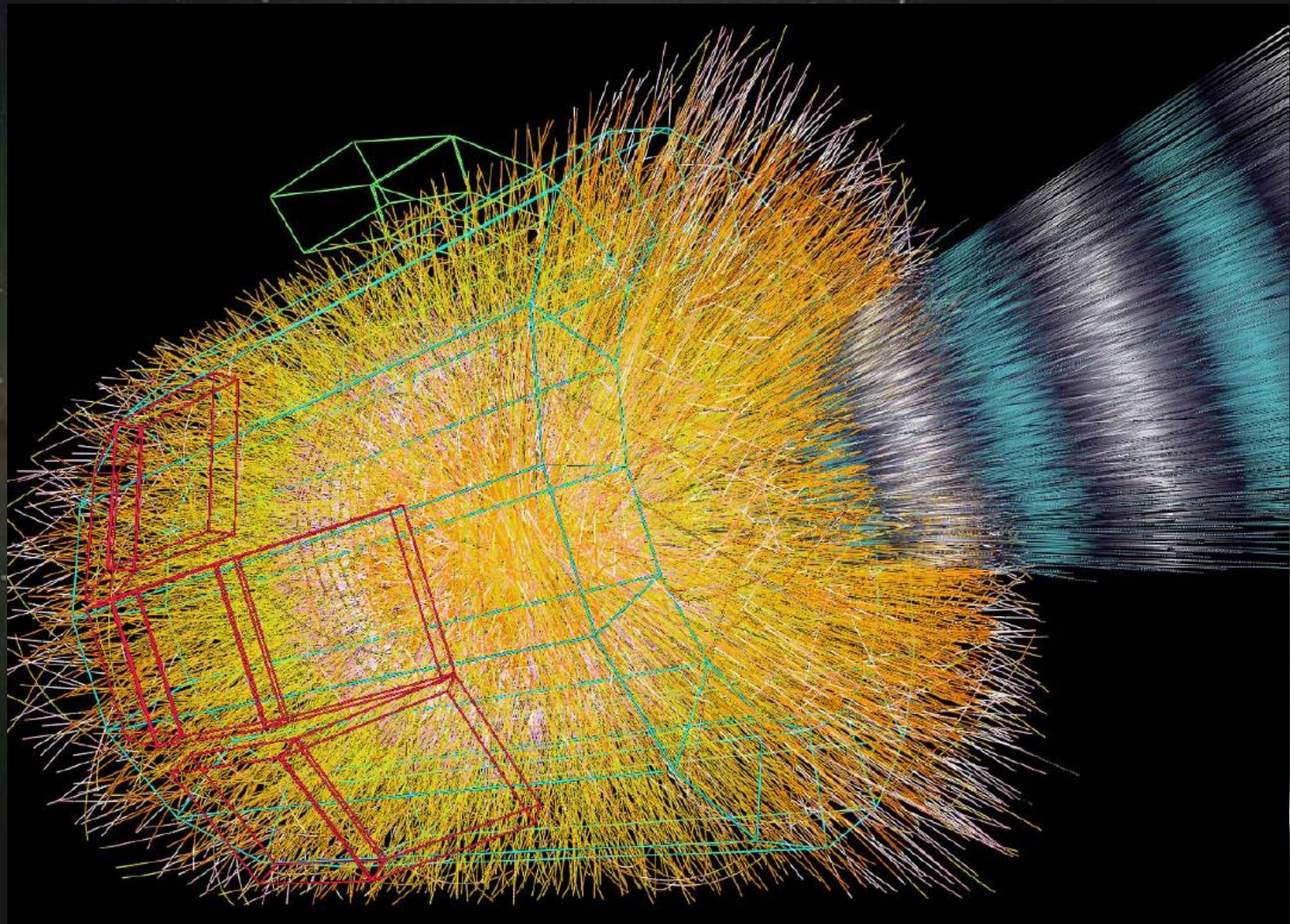
# ALICE

(A Large Ion Collider Experiment)

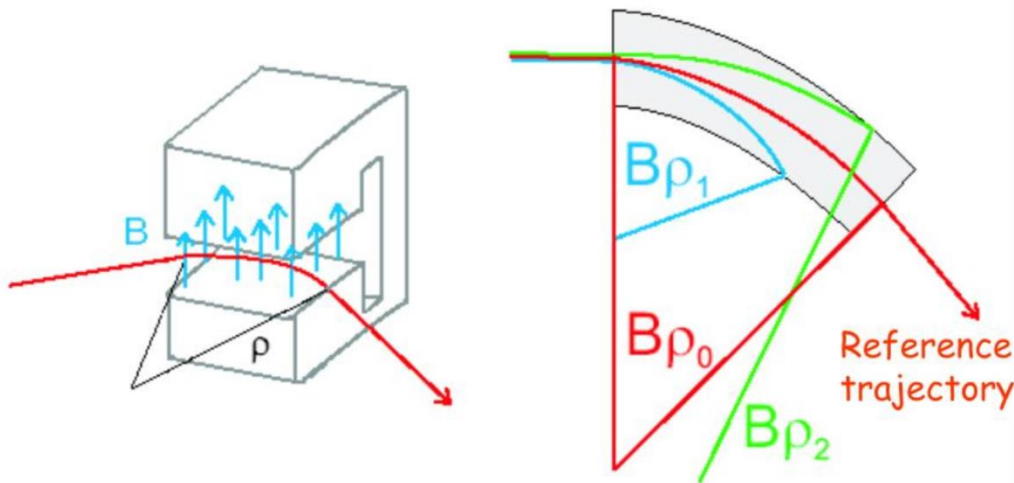
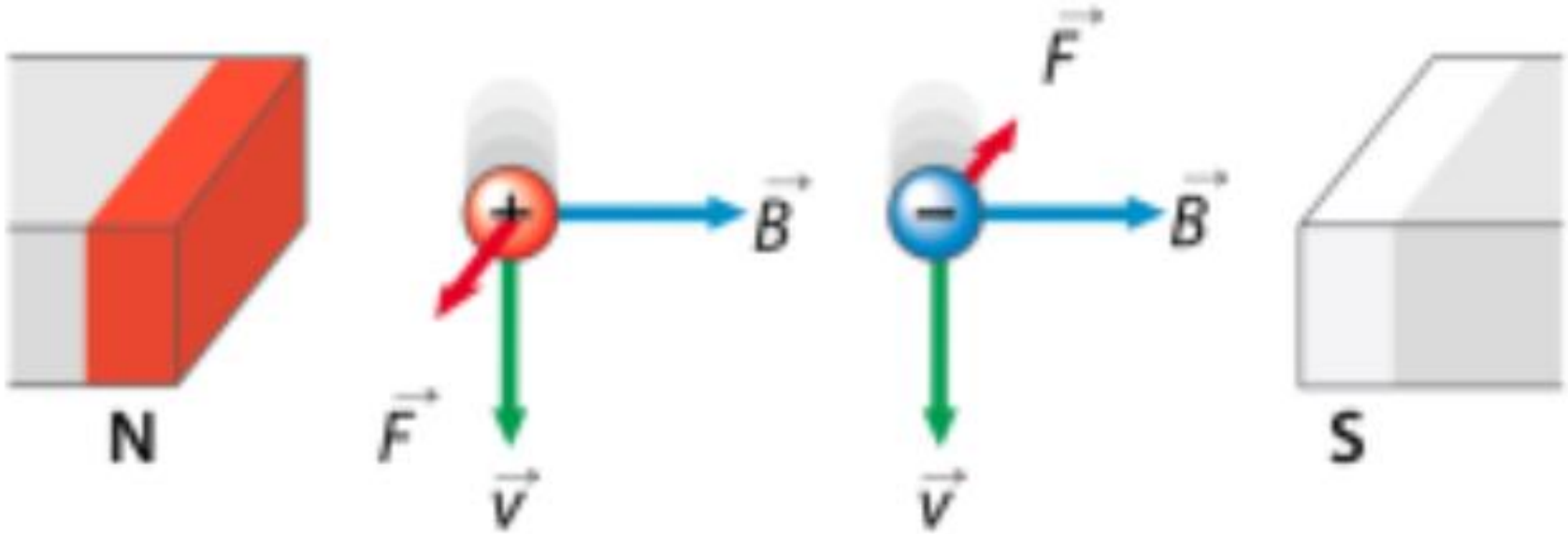


# Large Hadron Collider





Forza di Lorentz:  $\vec{F} = q\vec{V} \times \vec{B}$

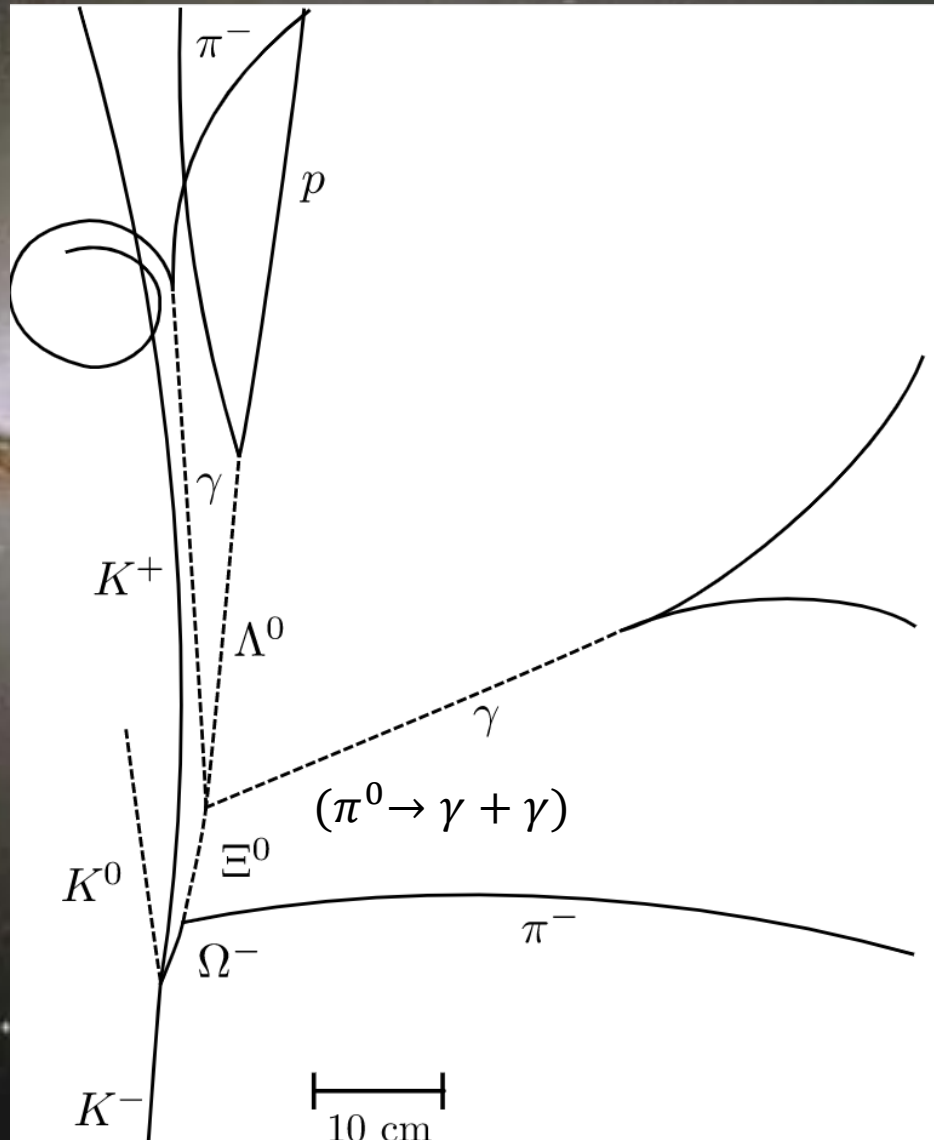


$$qBv = m \frac{v^2}{\rho}$$

$$\Rightarrow B\rho = \frac{m}{q} v = \frac{p}{q}$$

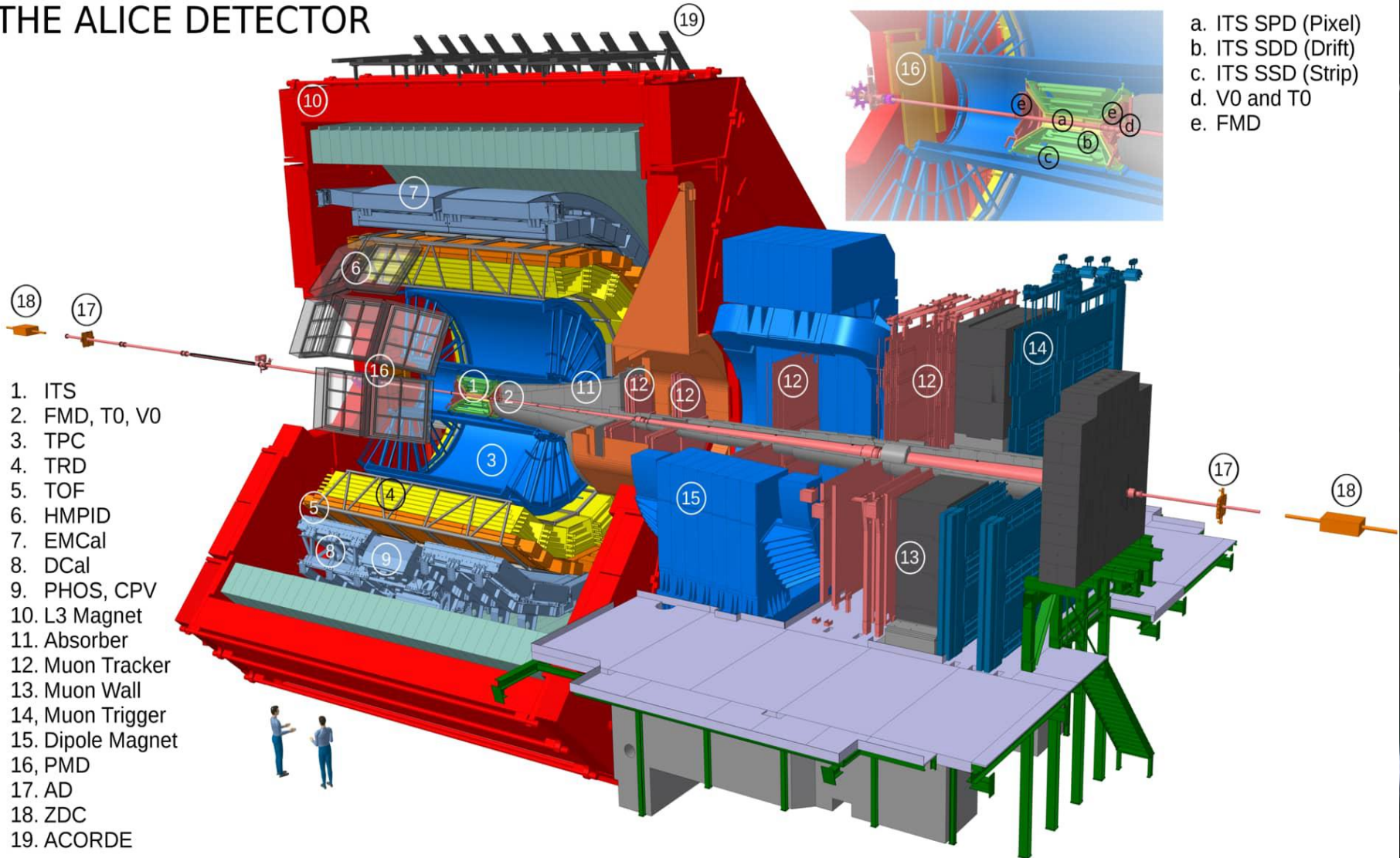
# $\Omega$ Barion Discovery

(Brookhaven National Laboratory, 1964)

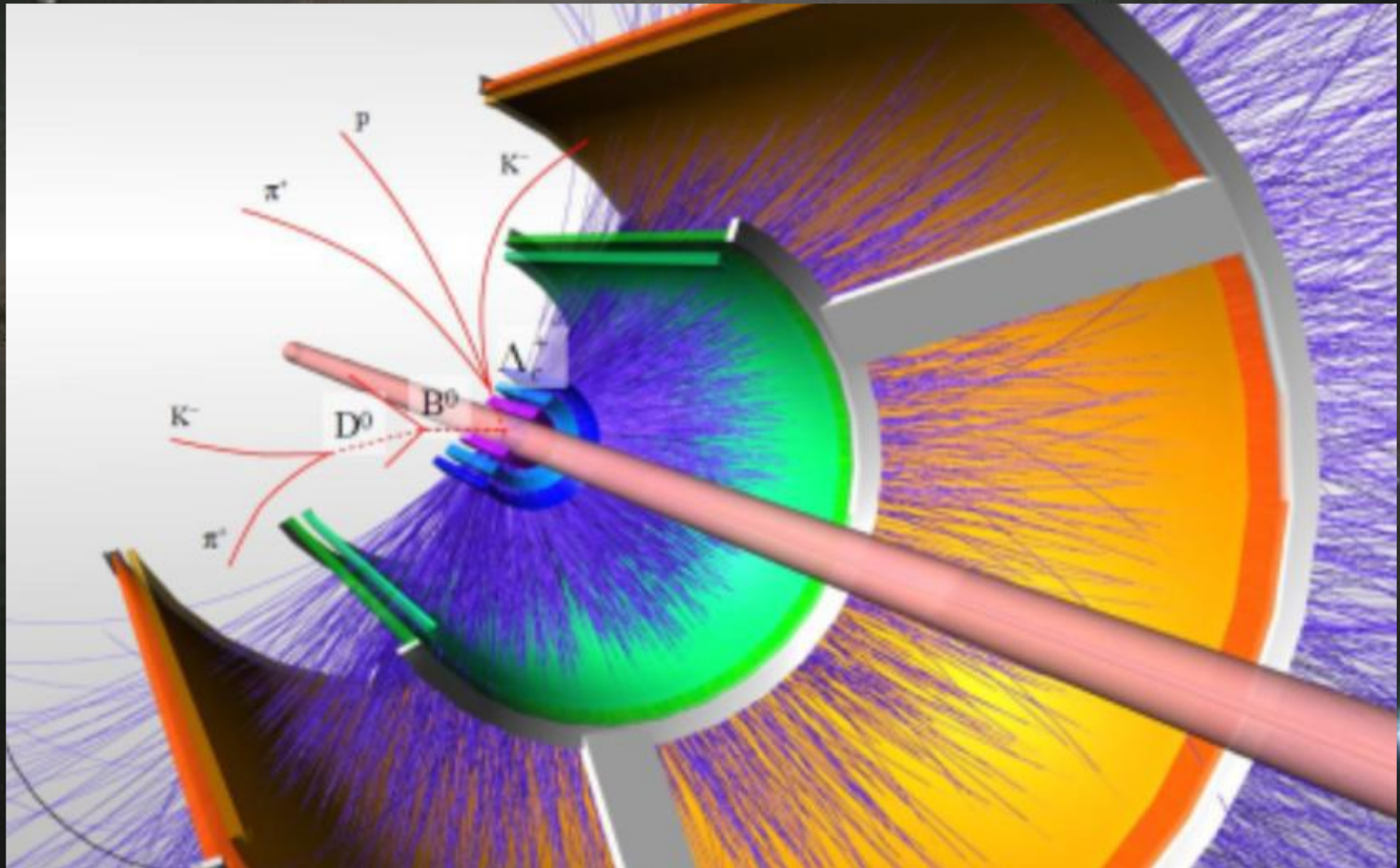


# ALICE

## THE ALICE DETECTOR

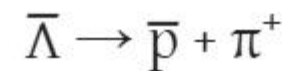
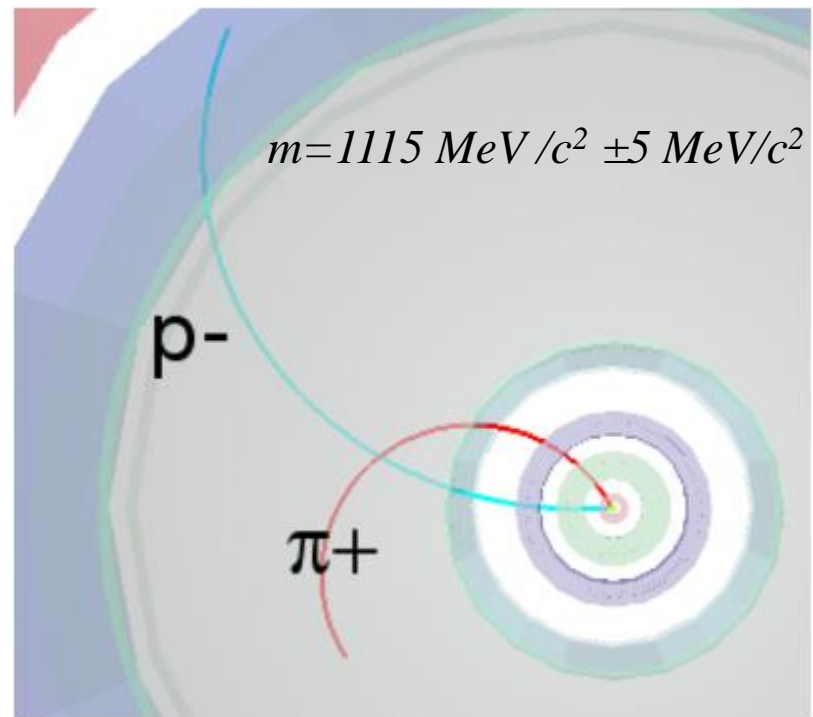
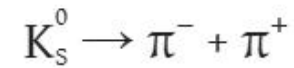
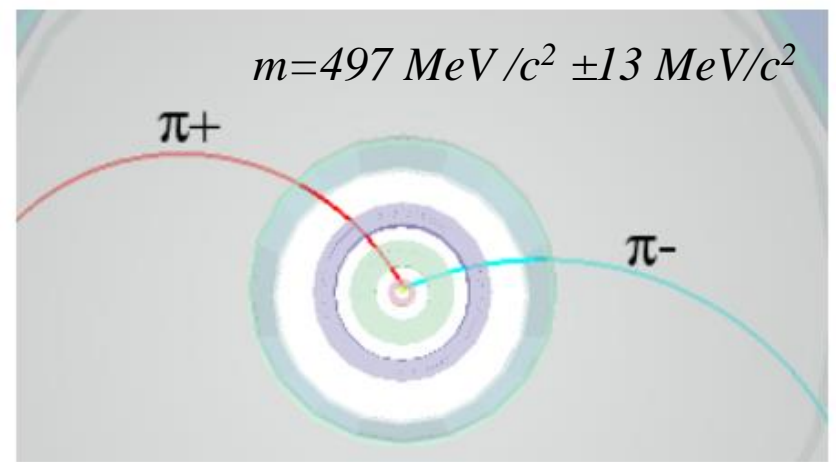
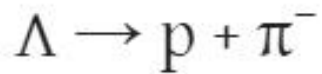
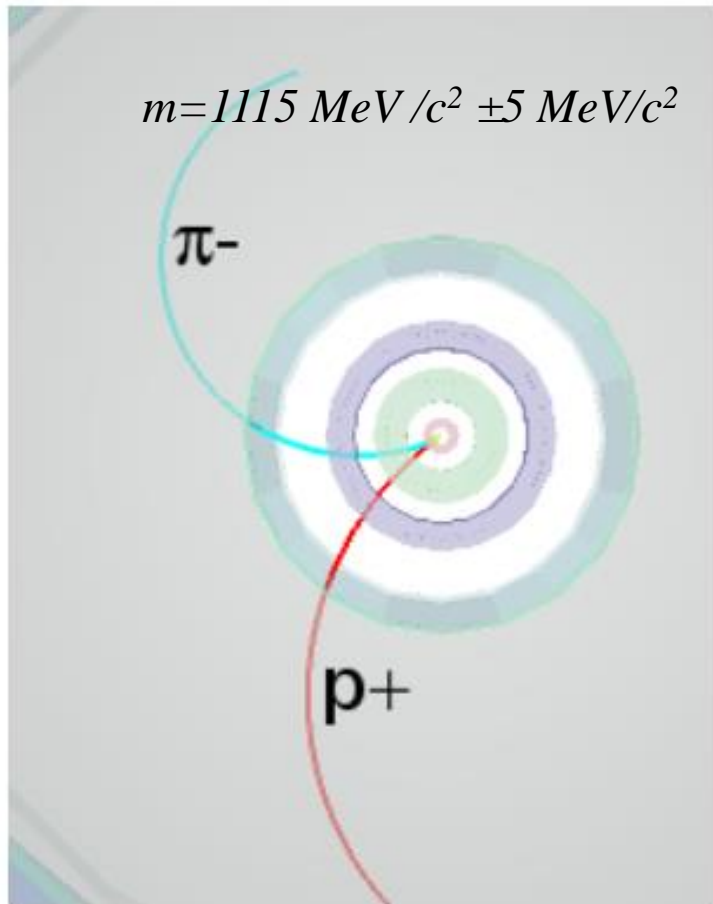


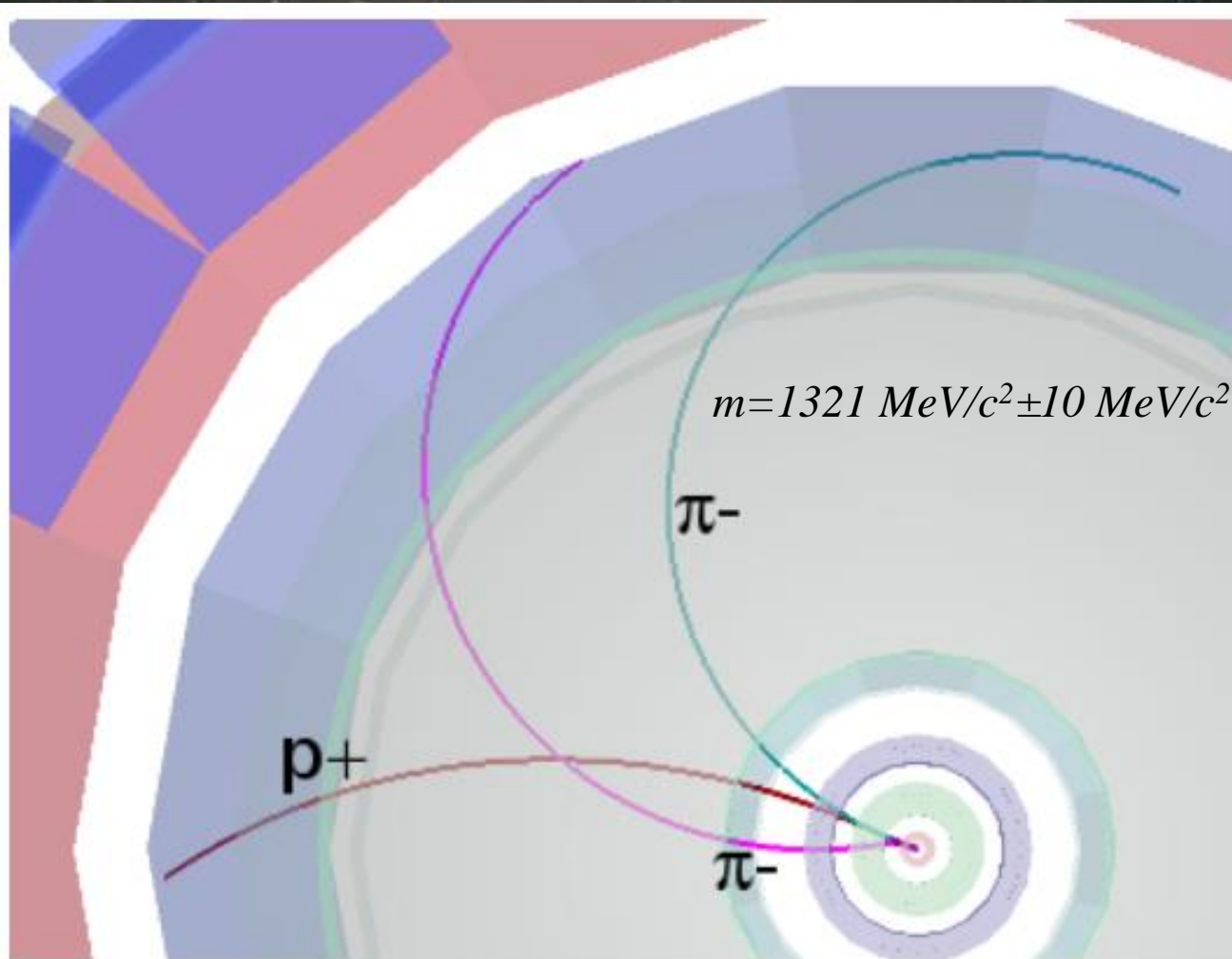
# Alice Inner Tracking System



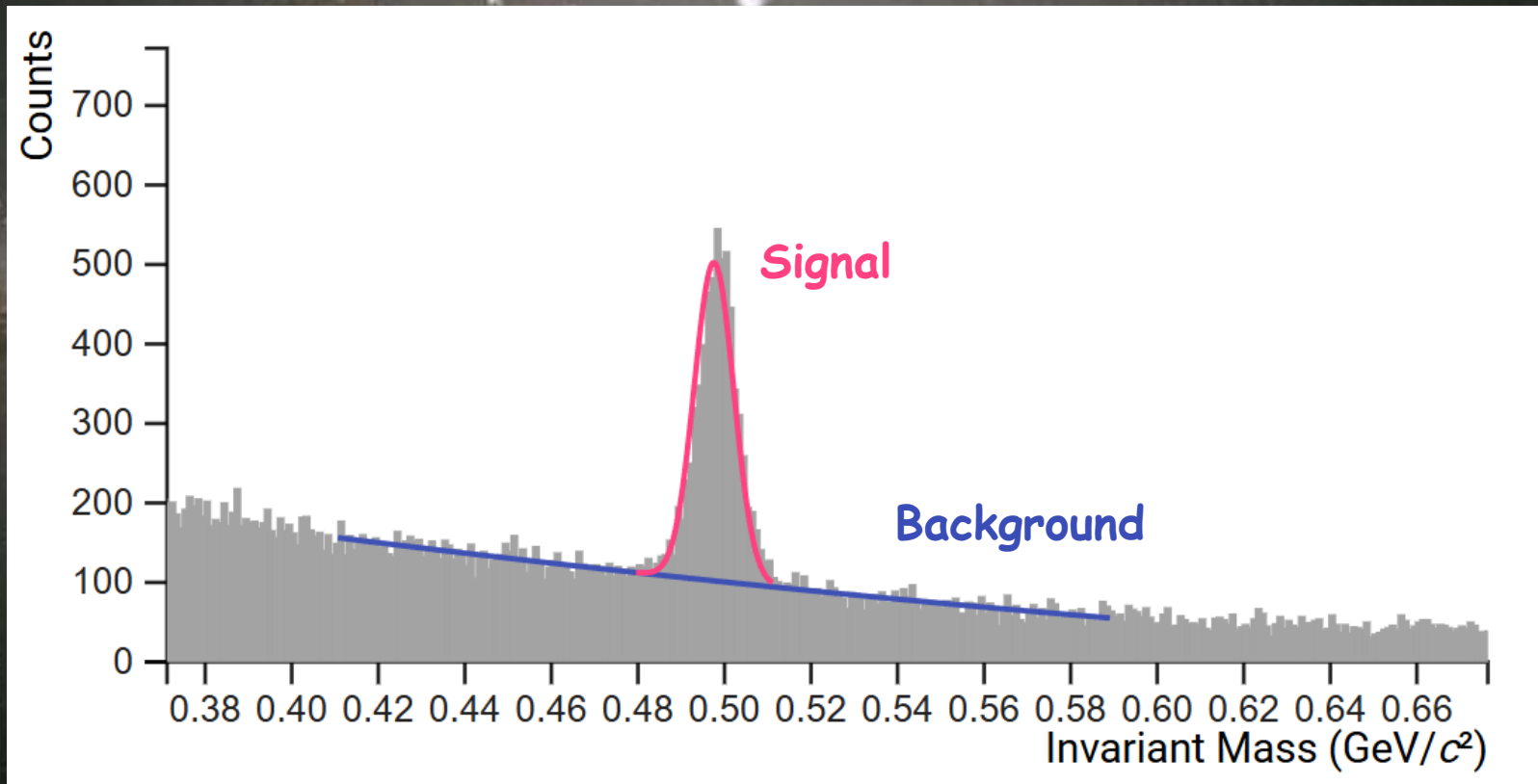


# Decadimenti che analizzeremo

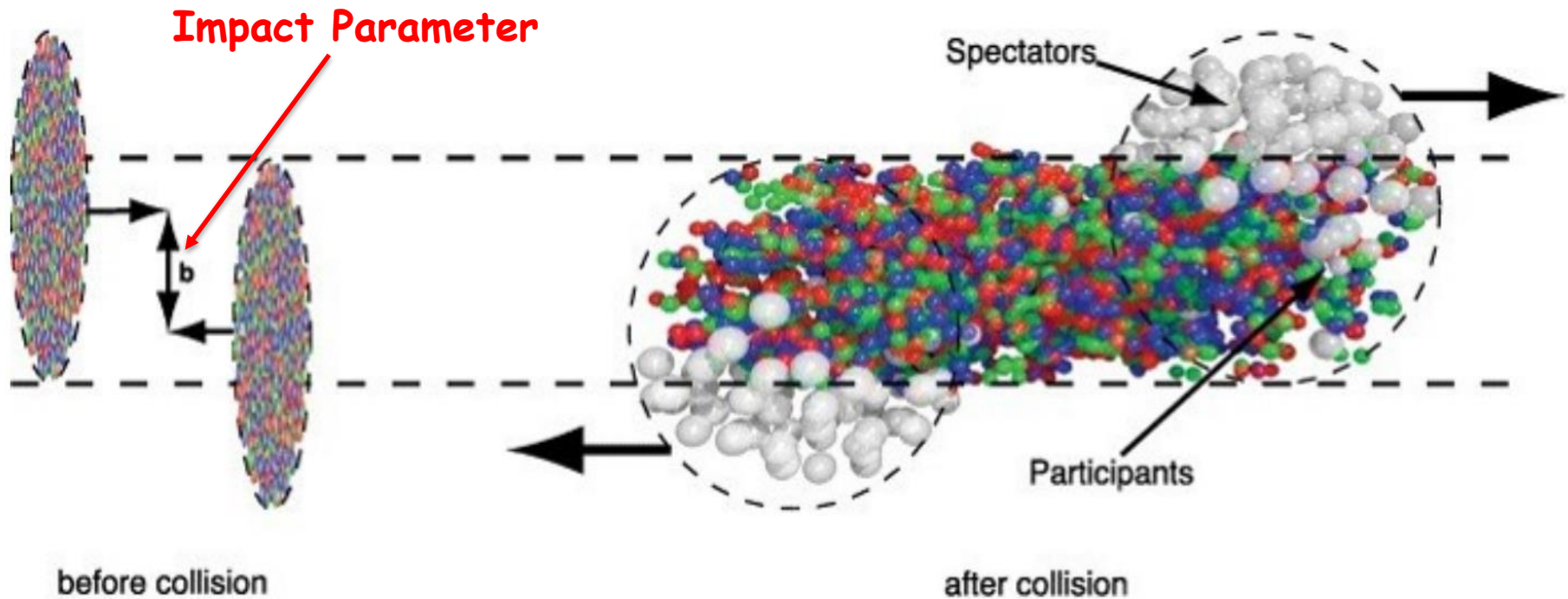




# Sottrazione del Background



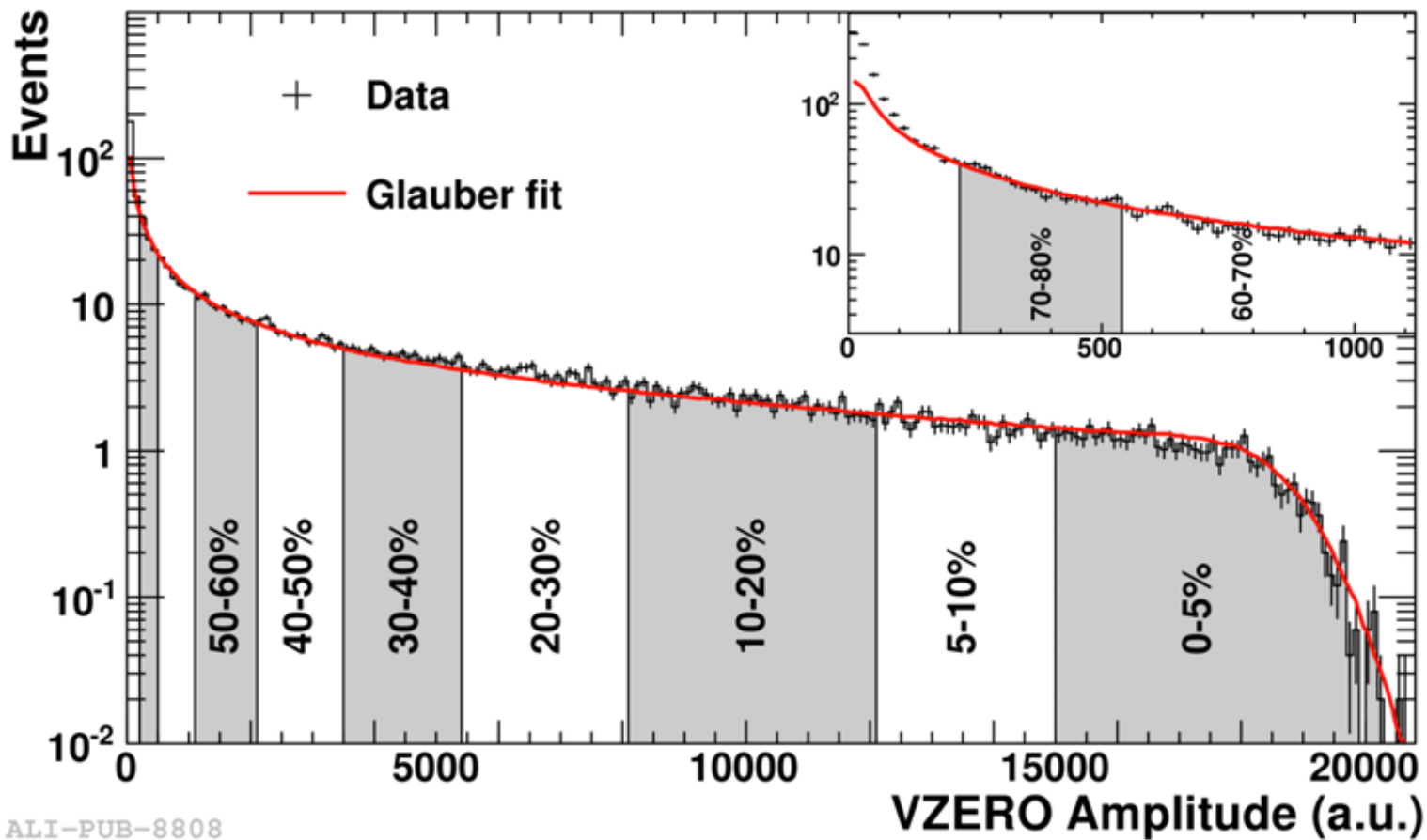
# Event Selection and Luminosity: VO



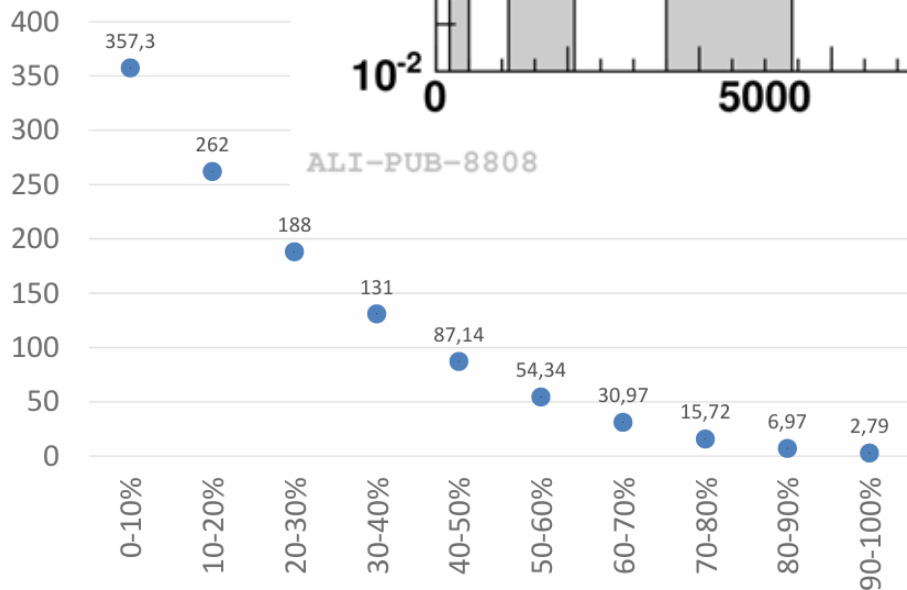
- 2 x (4 Rings of Plastic Scintillators + PMTs )
  - **Centrality**, Event Plane direction, Particle Multiplicity, background rejection, beam monitor..



Pb-P



Average number of participants



Centrality classes

Pb-Pb collisions at 5 TeV

**Yield** (per un certo tipo di particella):  $\frac{N_{particle}}{N_{events}}$

**Strangeness Enhancement:**  $\frac{Y_{AA}}{N_{participant} Y_{pp}}$



[Link all'esercitazione](#)