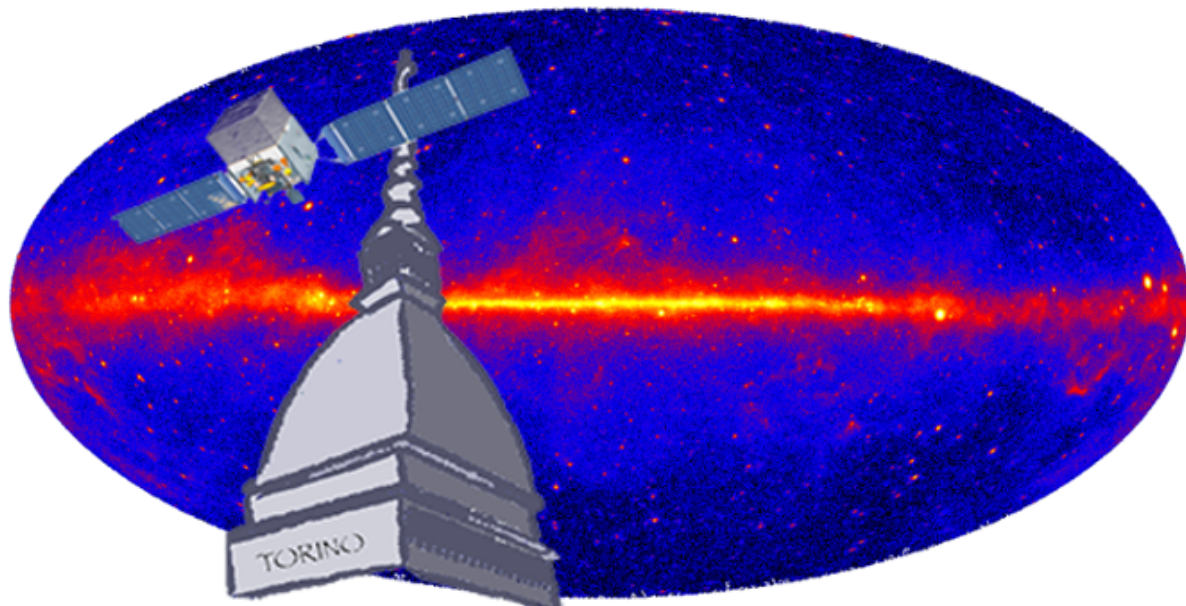


# Dai segnali nei rivelatori... alla mappa del cielo gamma

S. Maldera  
INFN - Torino

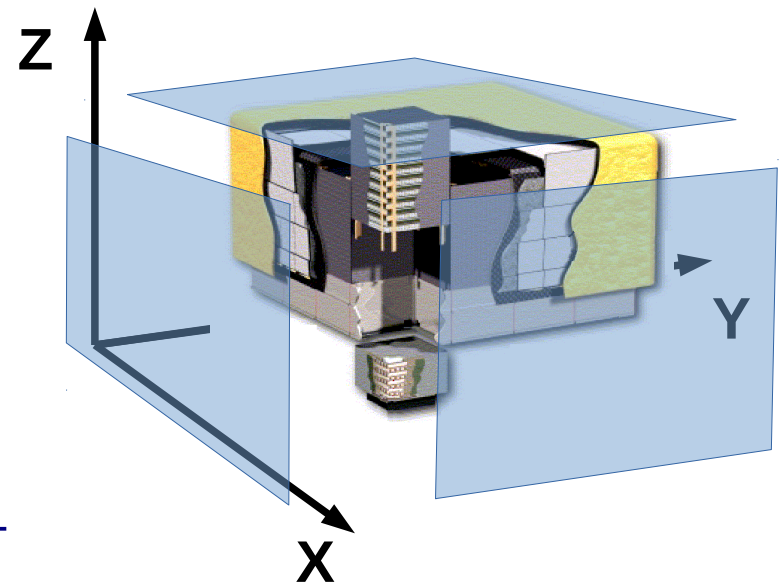
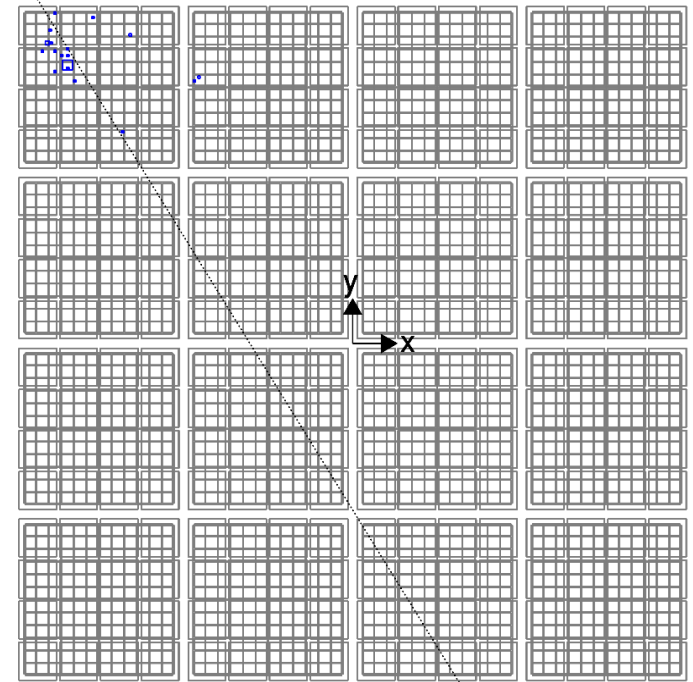
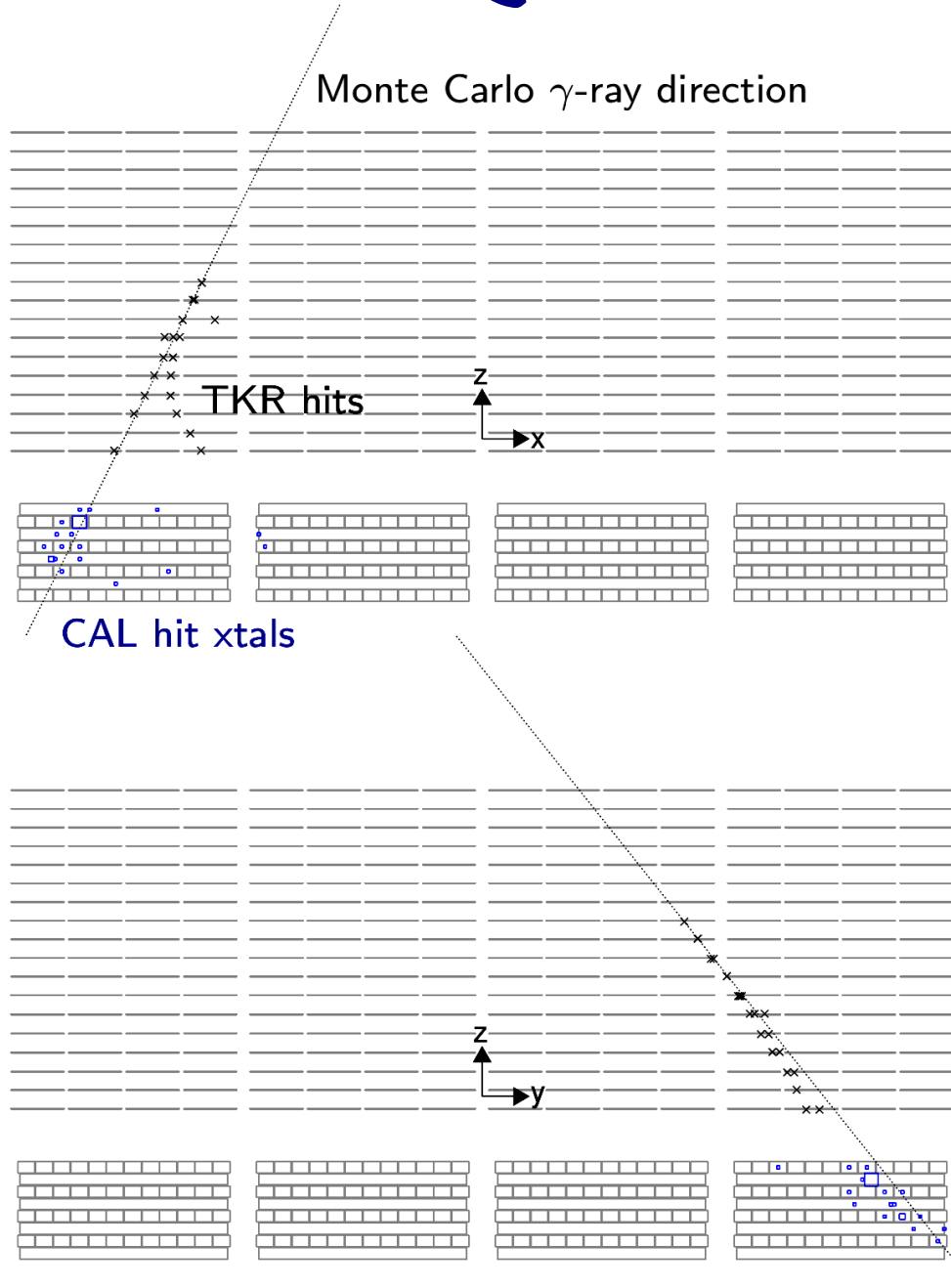


# Ricostruzione degli eventi

**A partire dai segnali nei rivelatori vogliamo:**

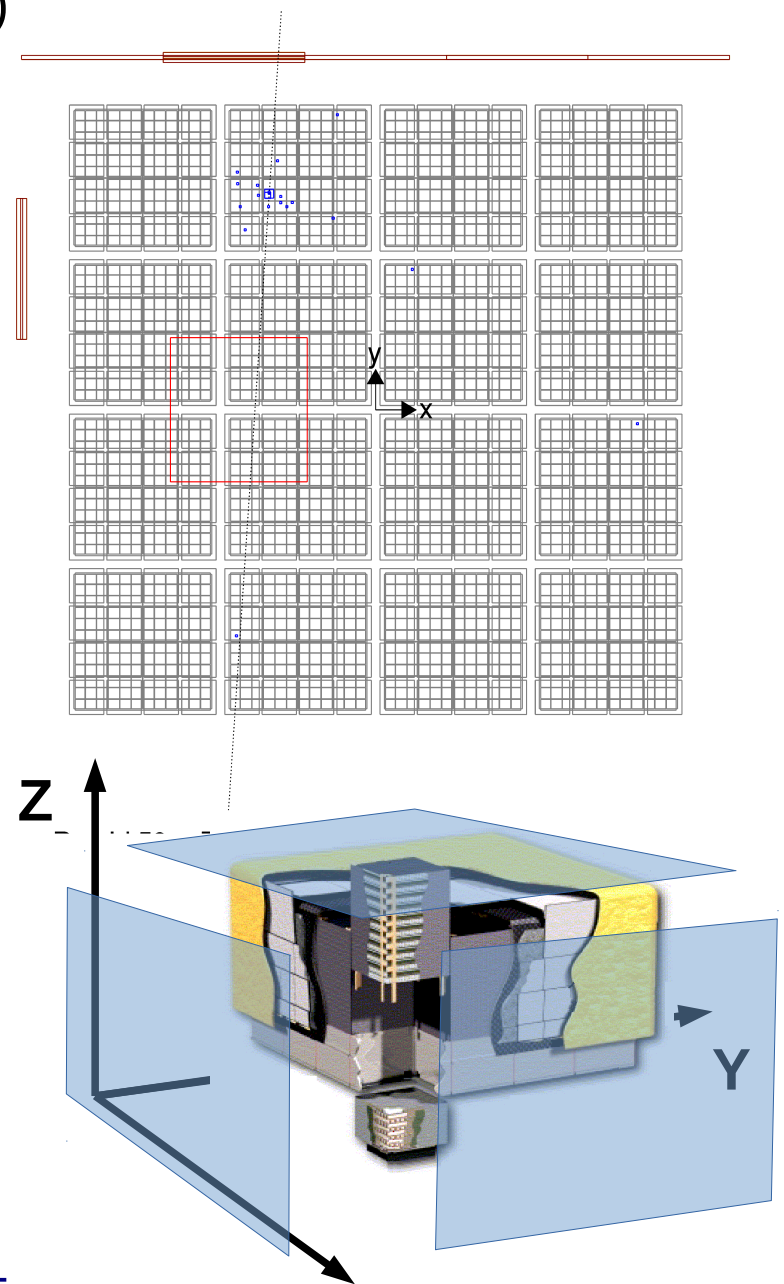
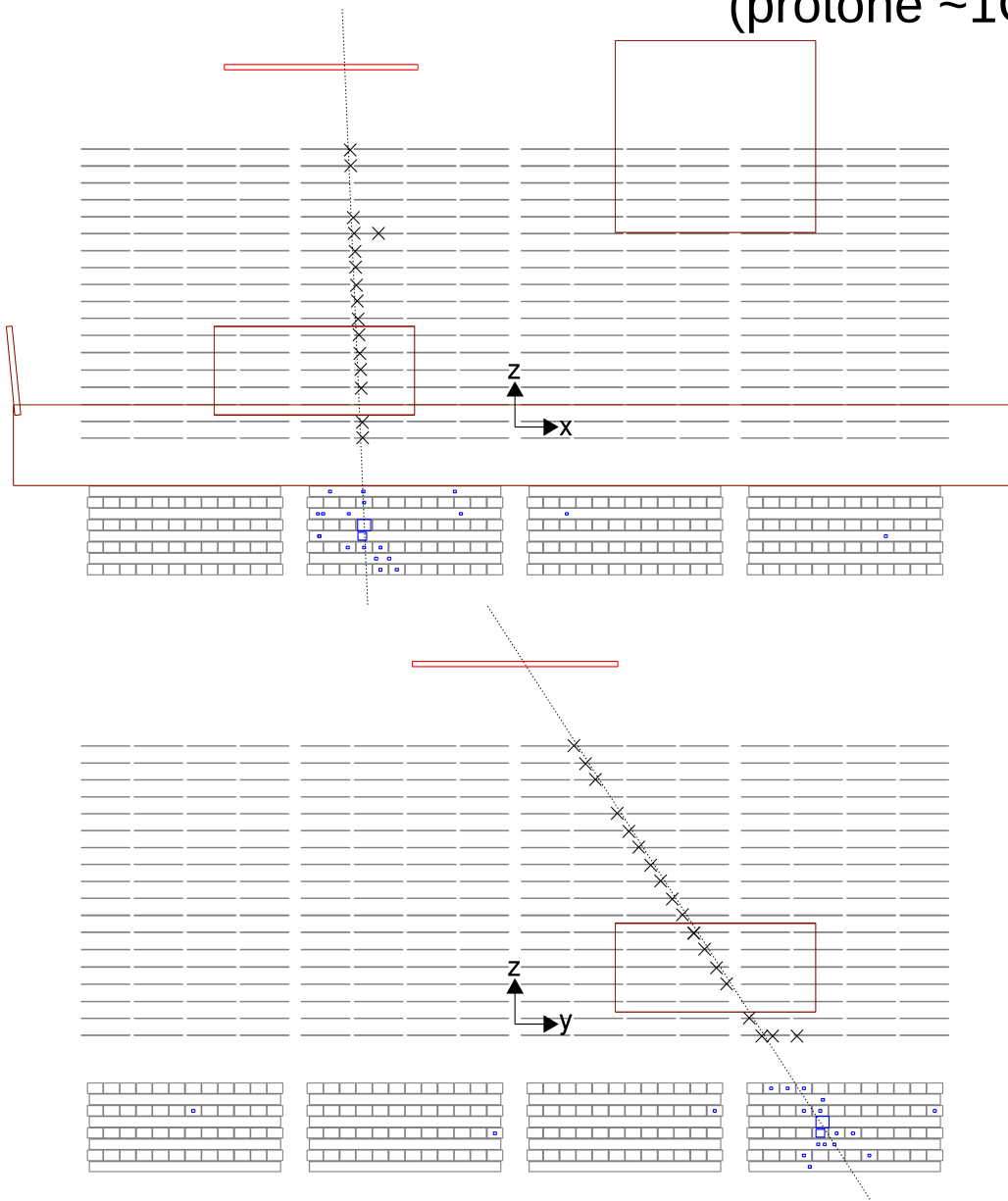
- eliminare (o studiare) le particelle cariche (background)
- ricostruire la direzione di arrivo
- ricostruire l'energia

# Fotone gamma nel LAT

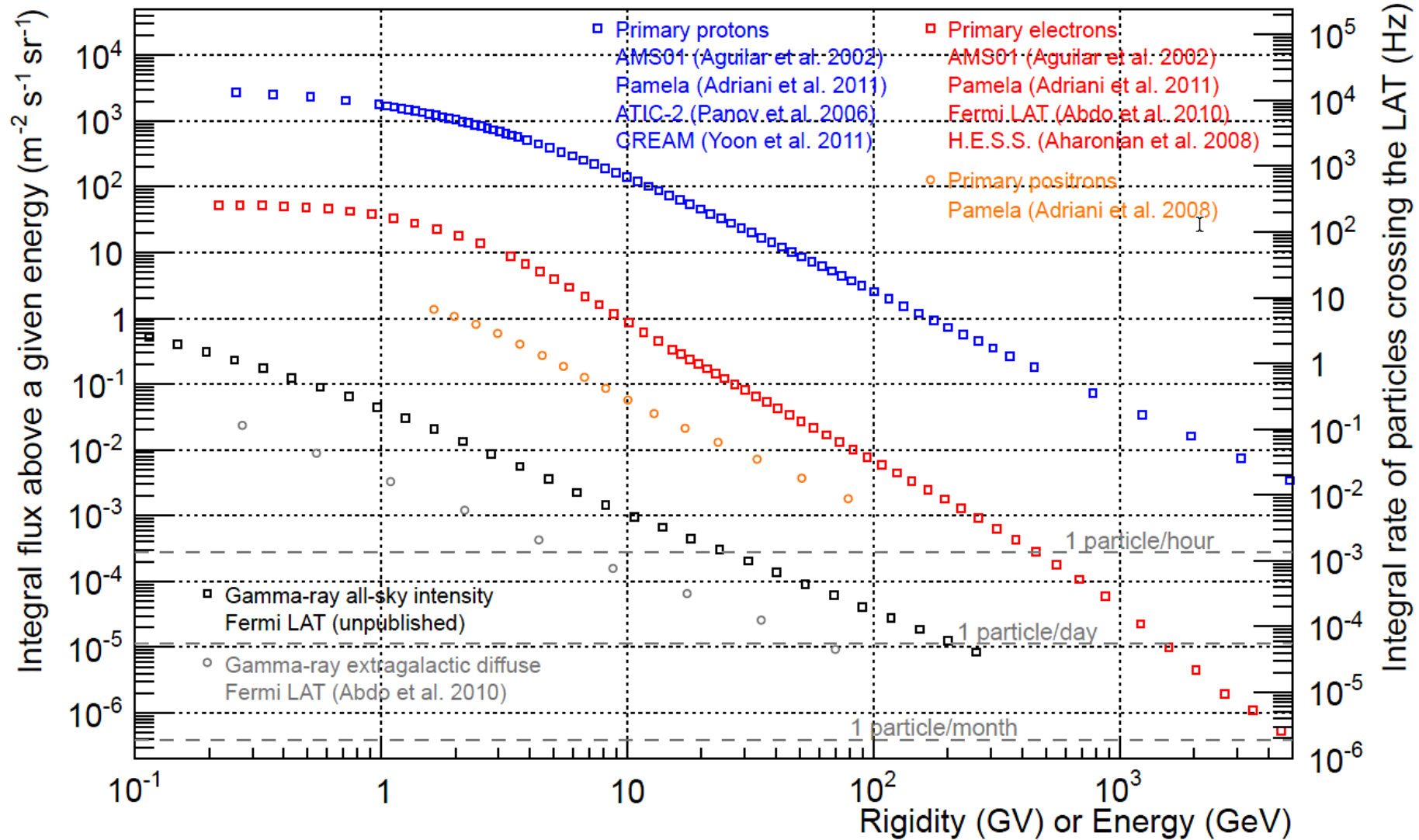


# Evento background nel LAT

(protone  $\sim 1\text{GeV}$ )



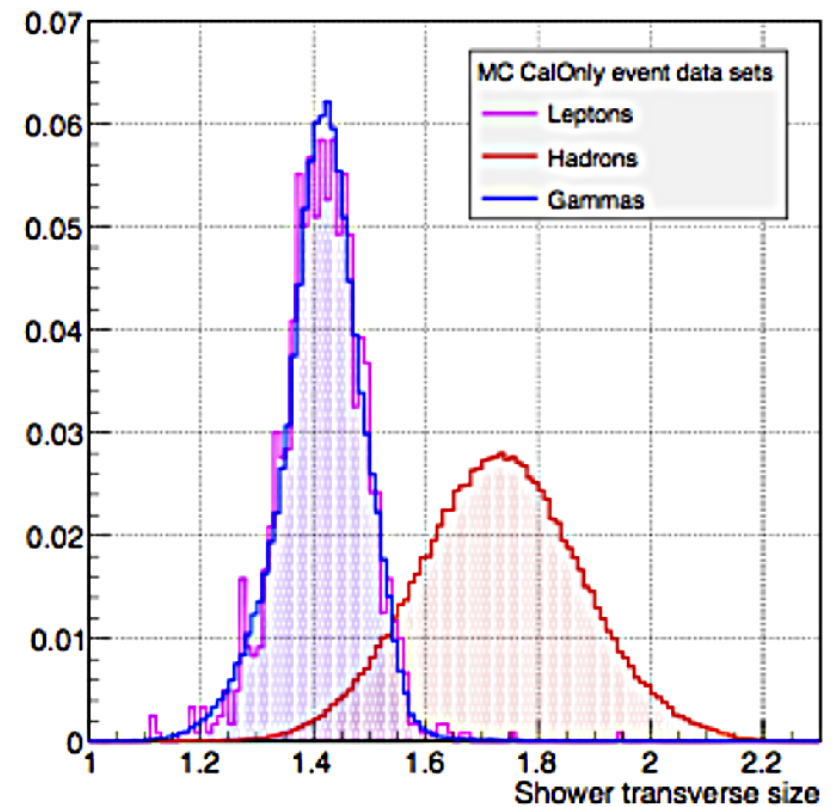
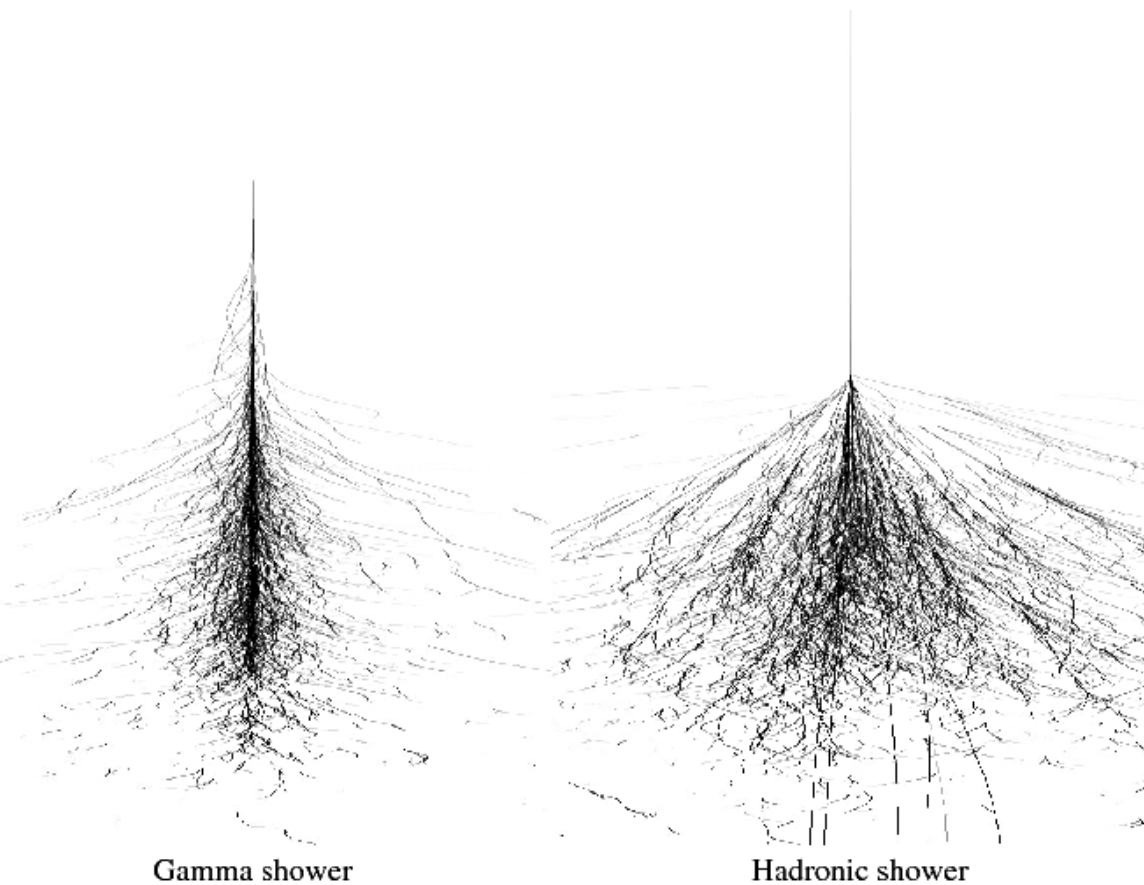
# Flussi all'orbita di Fermi



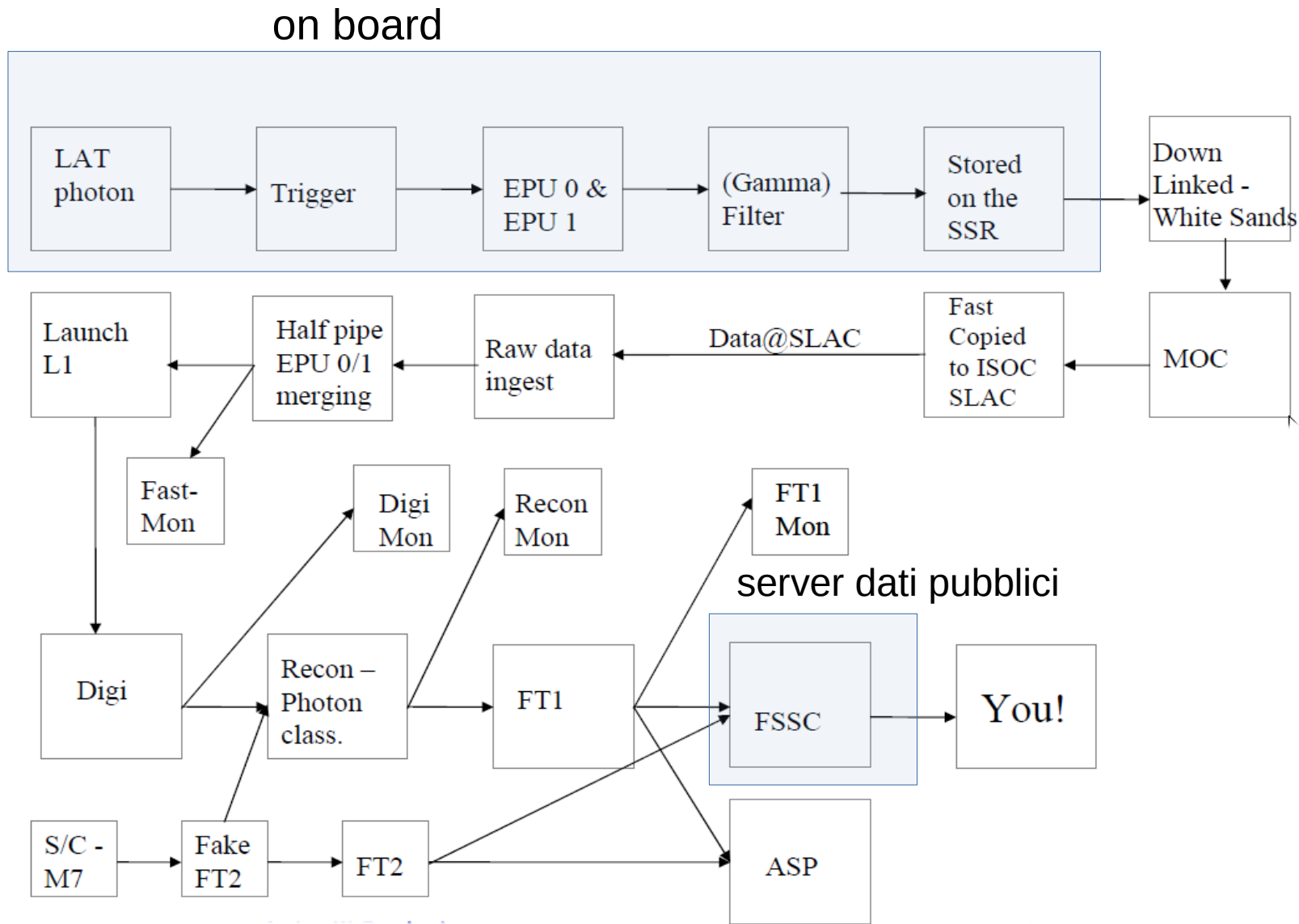
**necessaria una riduzione del background di un fattore  $\sim 10^6$**

ACD + "forma" dello sciame nel calorimetro

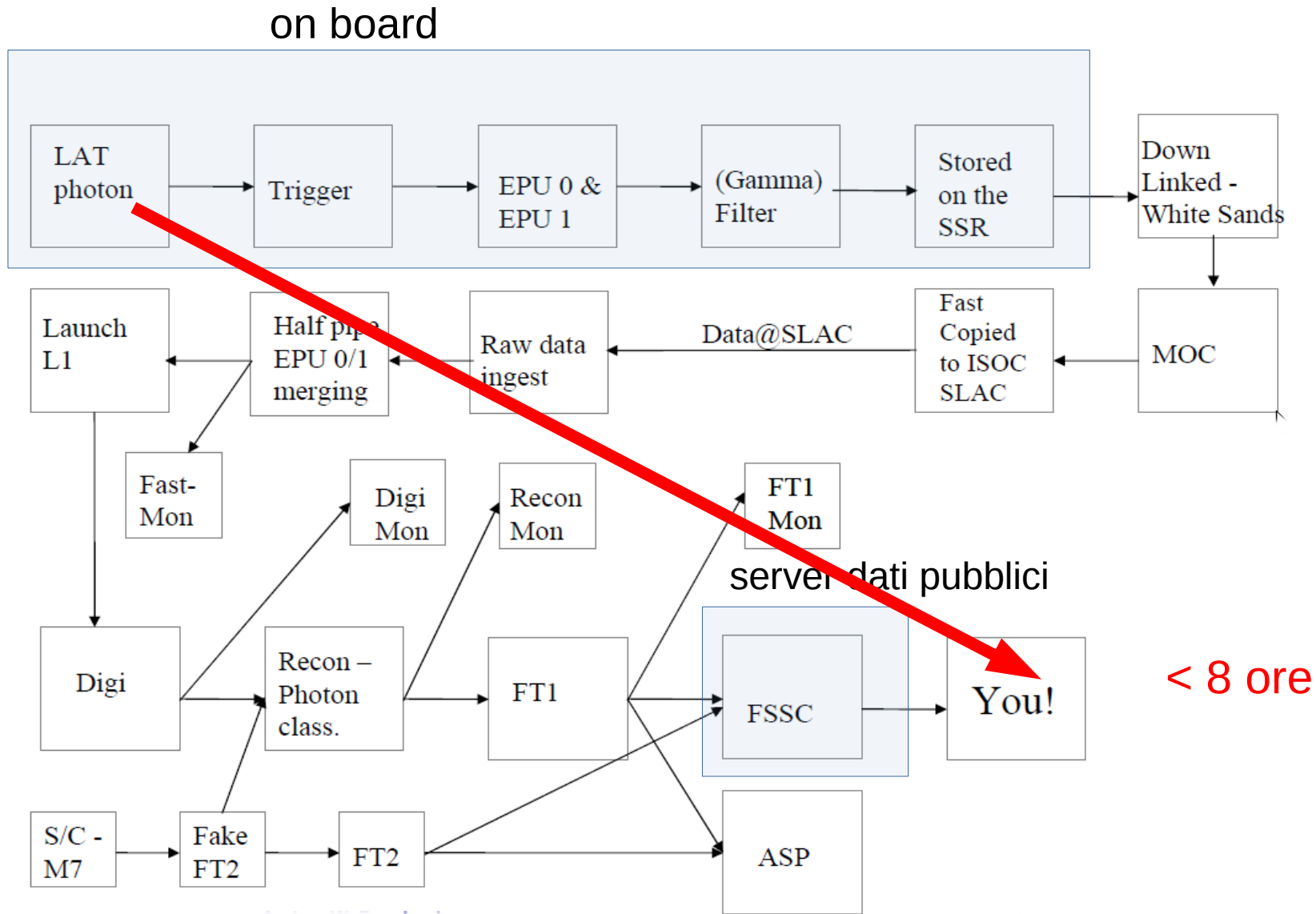
# Sciame elettromagnetico vs sciame 'adronico'



# Data Processing



# Data Processing

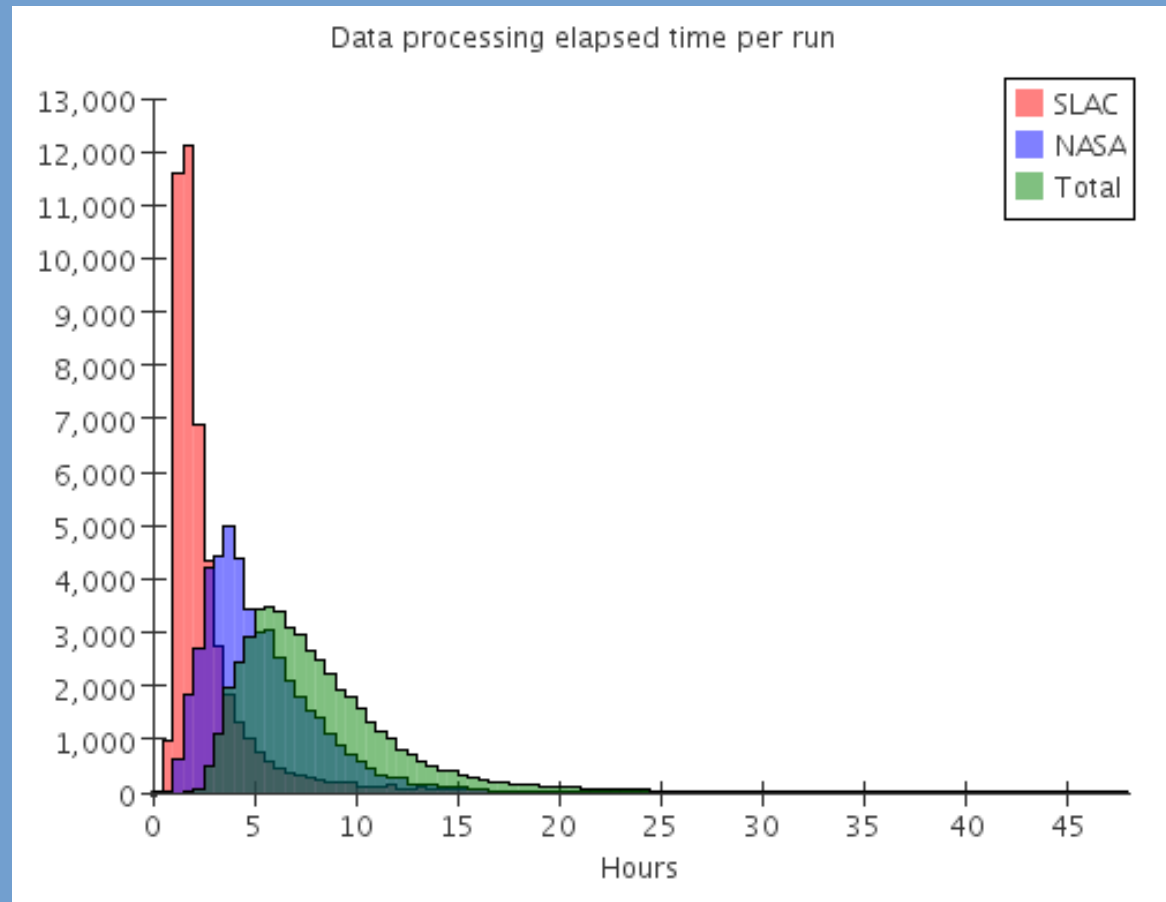
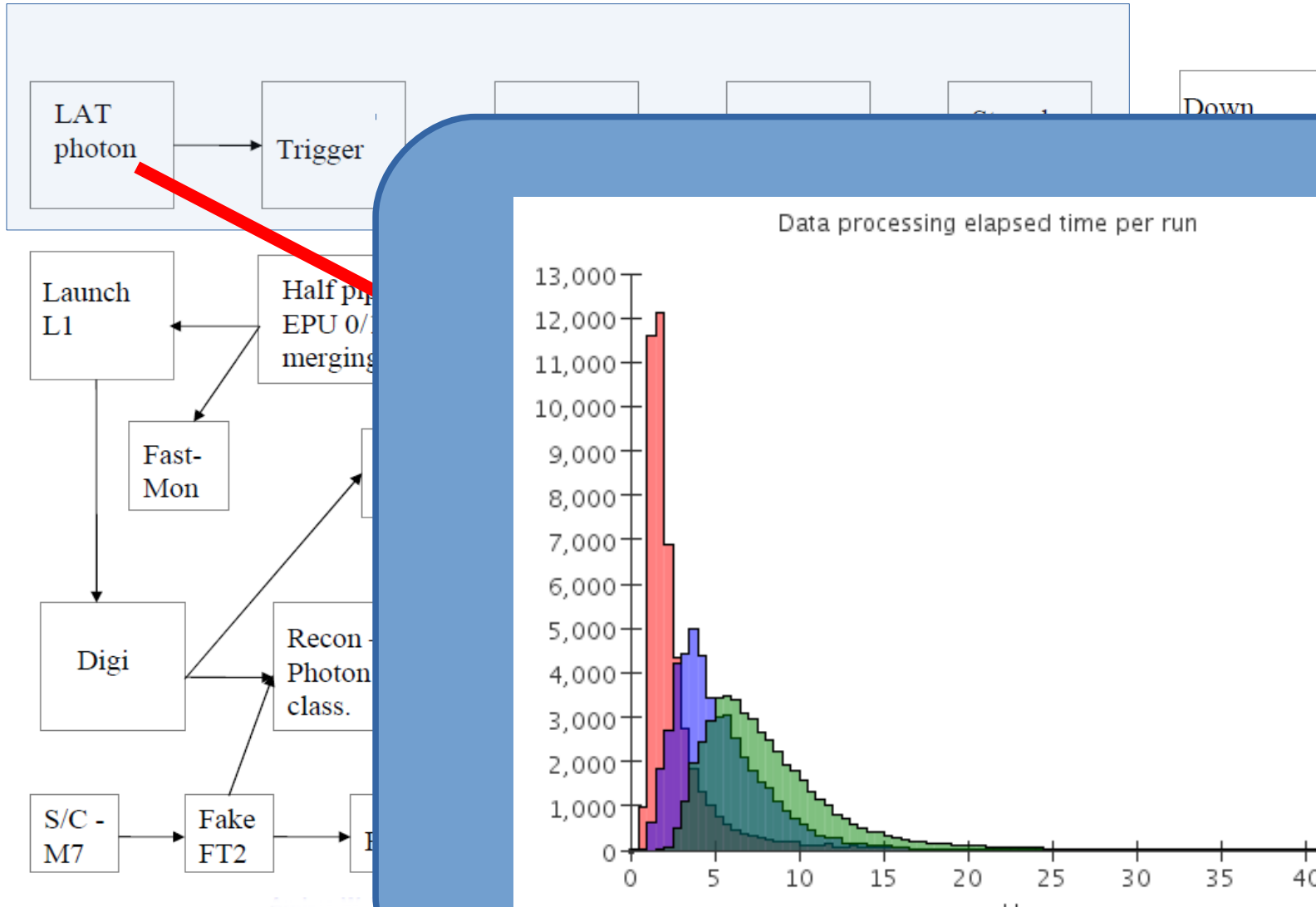


< 8 ore



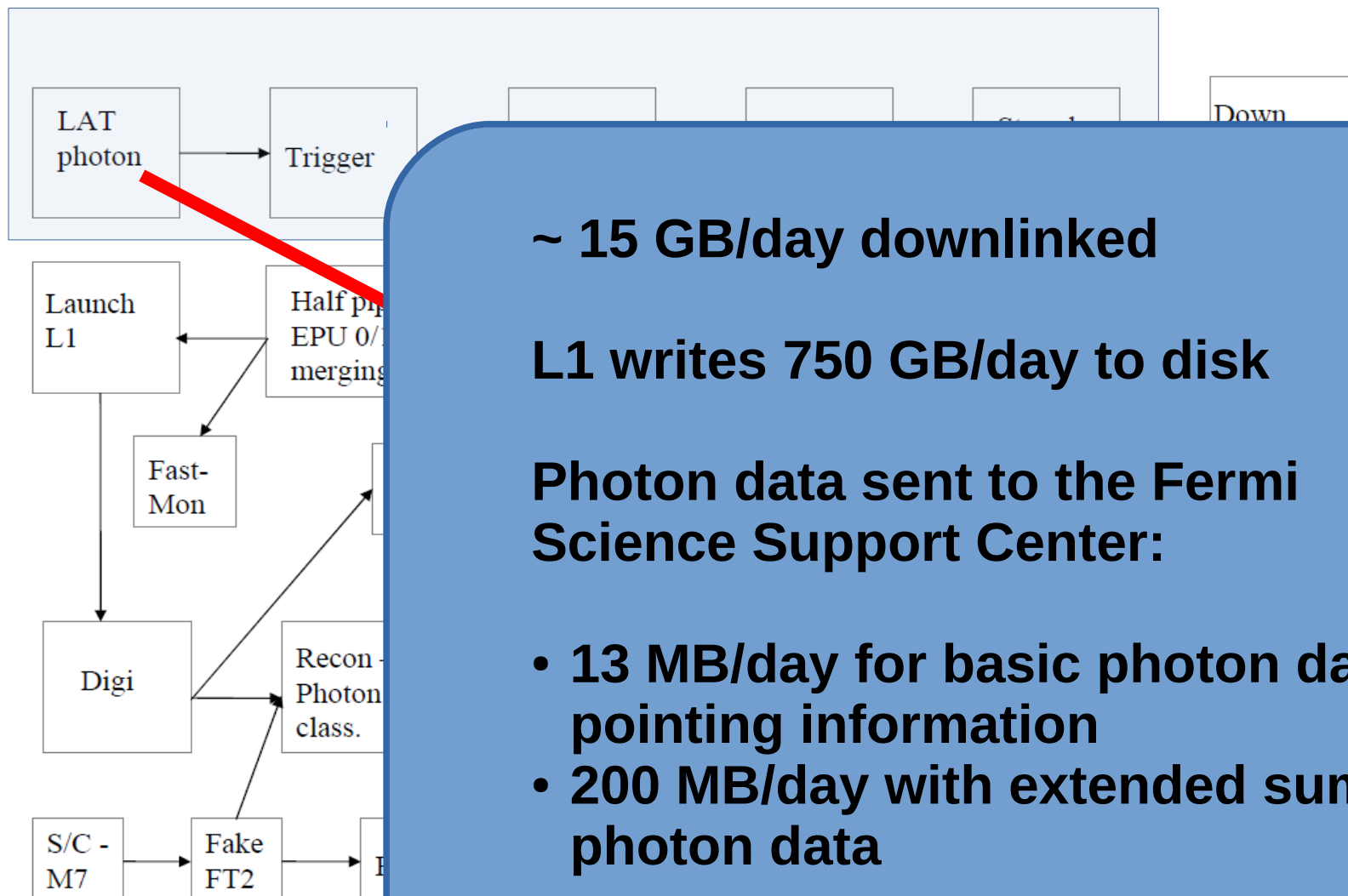
# Data Processing

on board



# Data Processing

on board



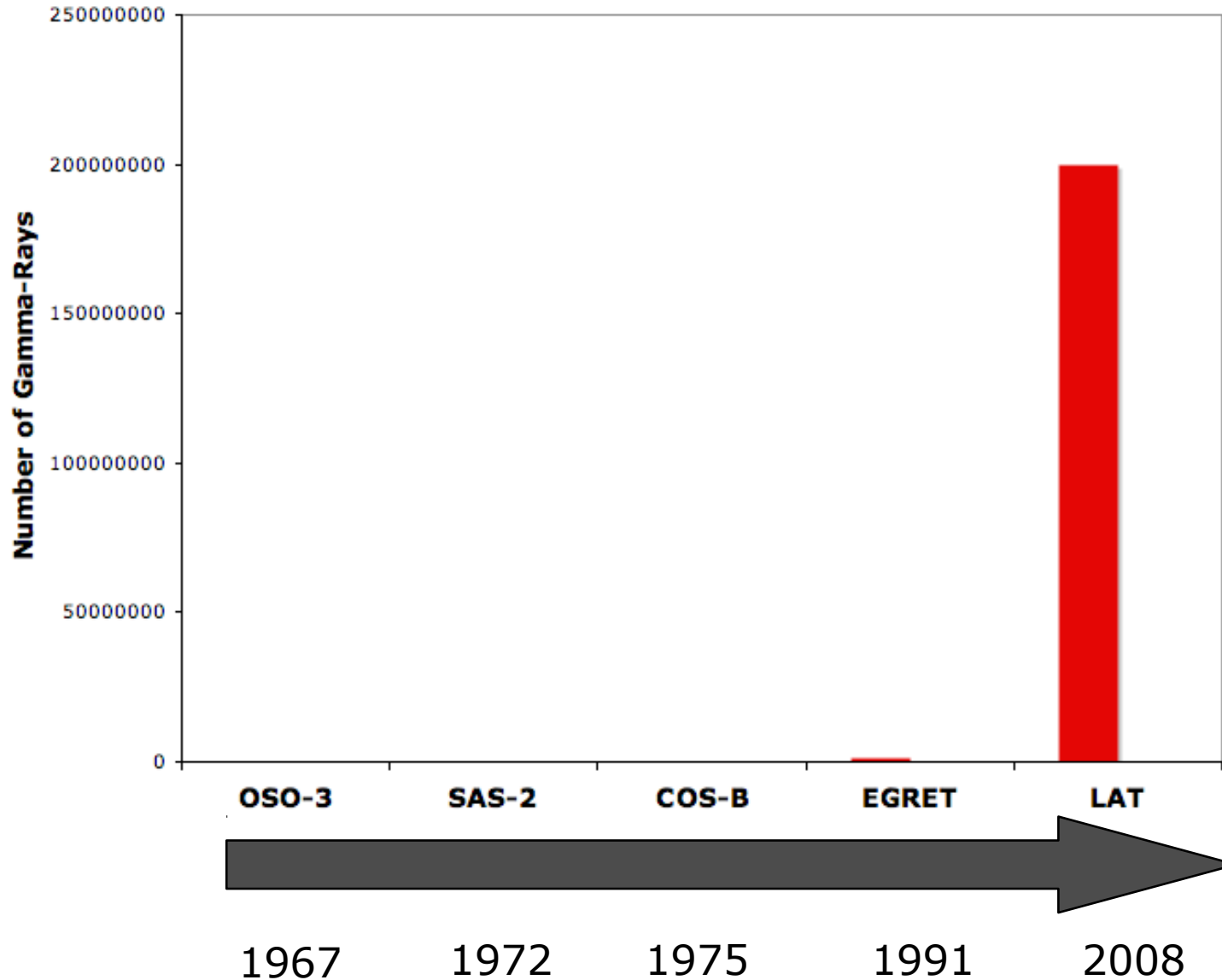
**~ 15 GB/day downlinked**

**L1 writes 750 GB/day to disk**

**Photon data sent to the Fermi Science Support Center:**

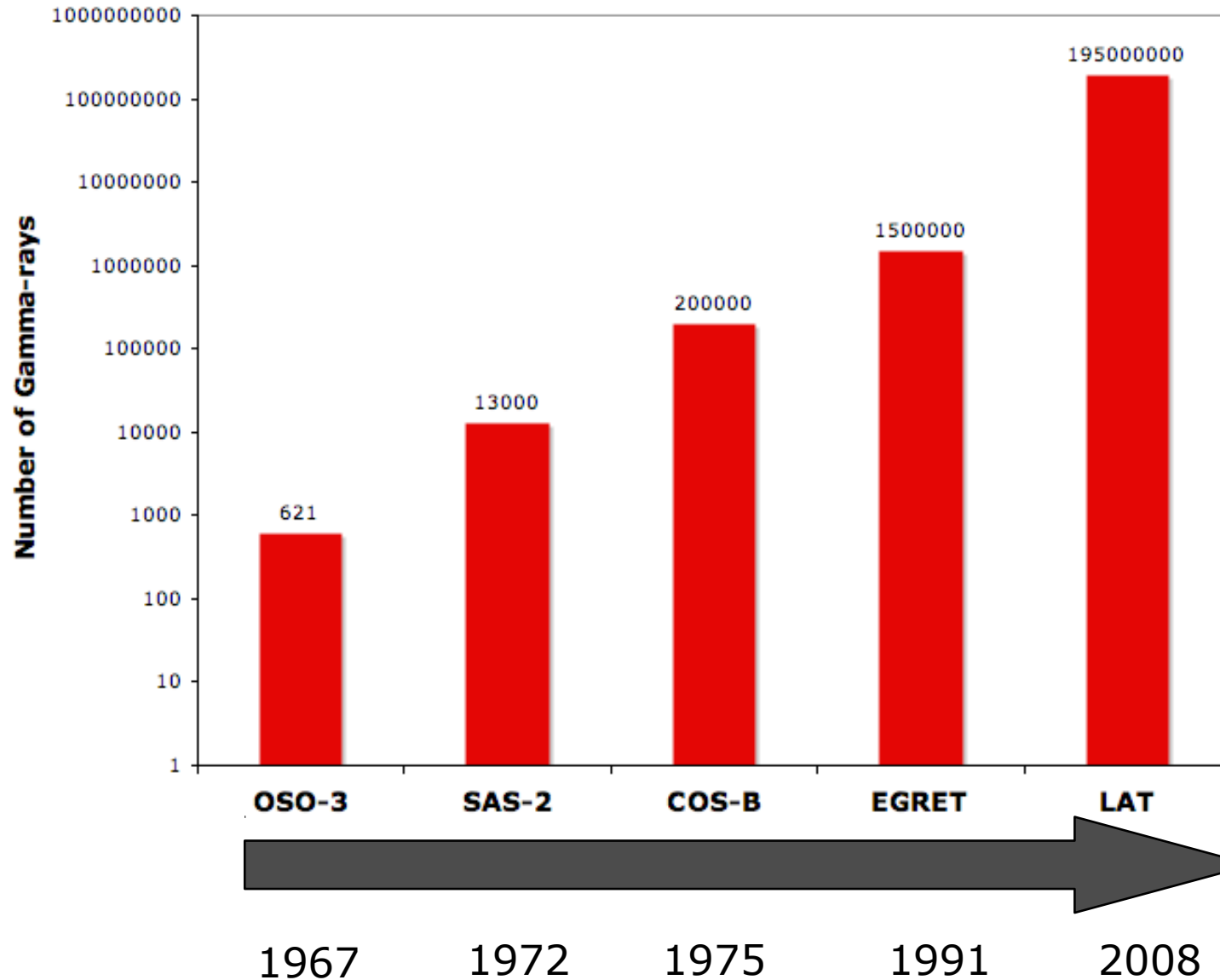
- **13 MB/day for basic photon data and pointing information**
- **200 MB/day with extended summary photon data**

# How many gammas?



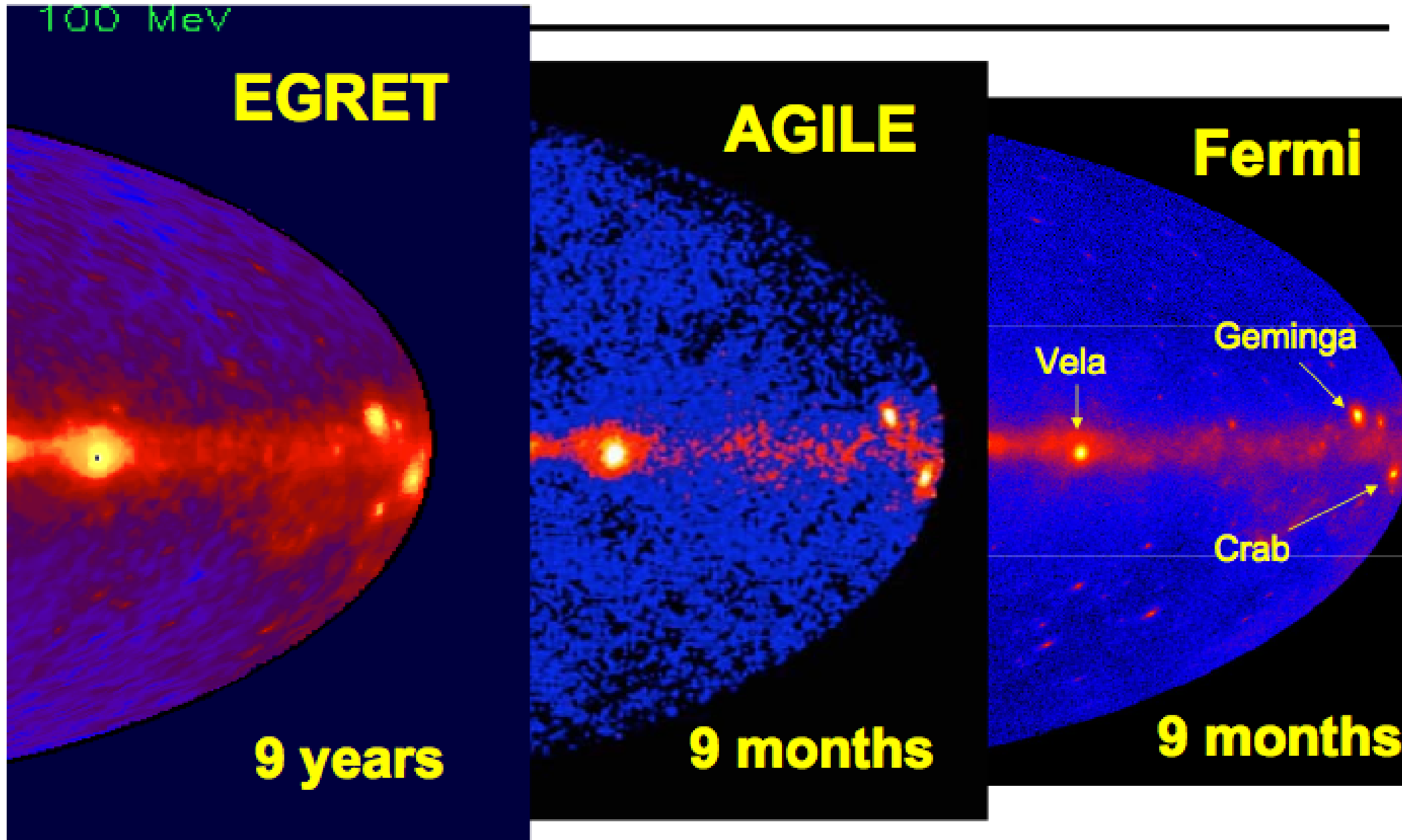
Now here  
1G events

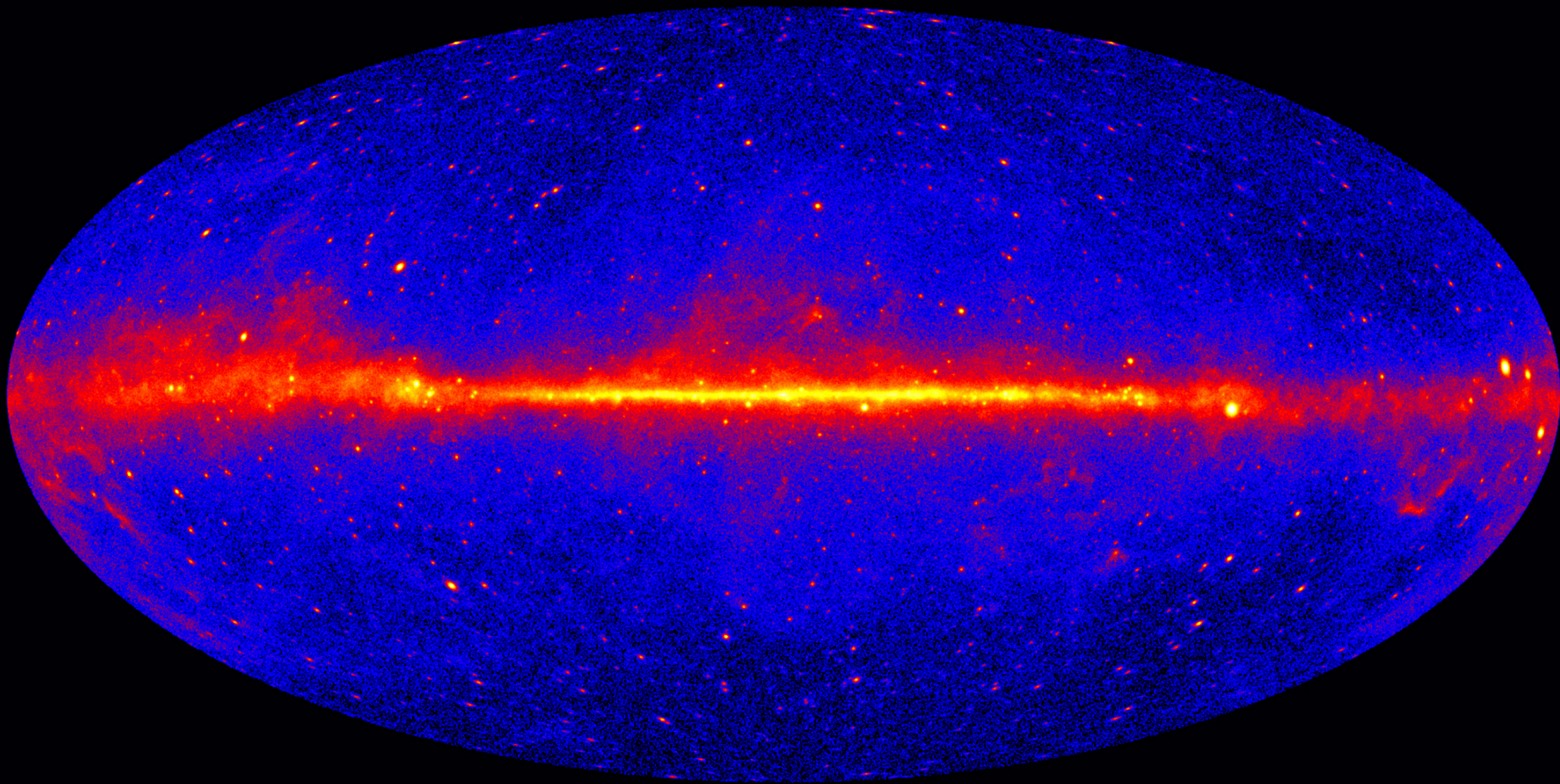
# How many gammas?



Now here  
1G events

# The gamma-ray sky above 100MeV





www.kahoot.it

# Kahoot!

Game PIN

Enter





