

# Welcome from CEA/Irfu



TOP 2024 Conference  
Saint-Malo, France  
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Deputy Head of Irfu/DPhP





# CEA

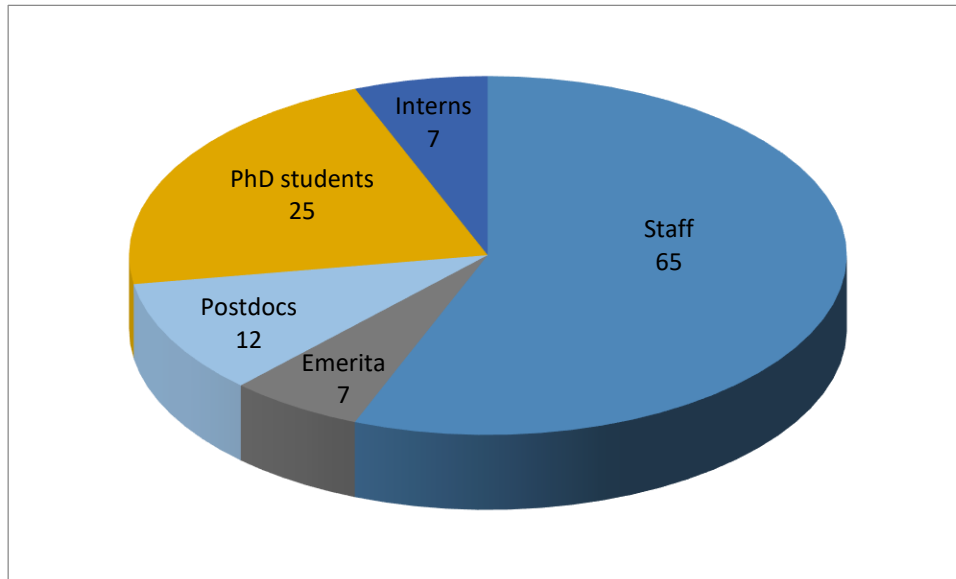
- CEA is the French **Alternative Energies and Atomic Energy Commission**.
- Key player in research, development and innovation in four main areas
  - **Defence and security (DAM)**
  - **Low carbon energies, nuclear and renewable (DES)**
  - **Technological research for industry (DRT)**
  - **Fundamental research in physical and life sciences (DRF)**
- 9 research centres ; 21 000 employees



# Irfu

- Institute of Research into the Fundamental laws of the Universe
- An institute of DRF
- Divided into 7 departments
  - 3 for physics in Saclay : **astrophysics; nuclear physics; particle physics**
  - 3 for technology in Saclay : **accelerators and cryomagnetism; electronics, detectors and computing; system engineering**
  - 1 facility (CEA/CNRS): **GANIL** (Heavy ion national large accelerator) in Caen, Normandy
- 670 staff employees, 1 050 employees in total

# Department of Particle Physics (DPhP)



- 116 persons in total
- Understand the energy content and dynamics of the Universe at the fundamental level
- 3 main axes of research

# Collider physics

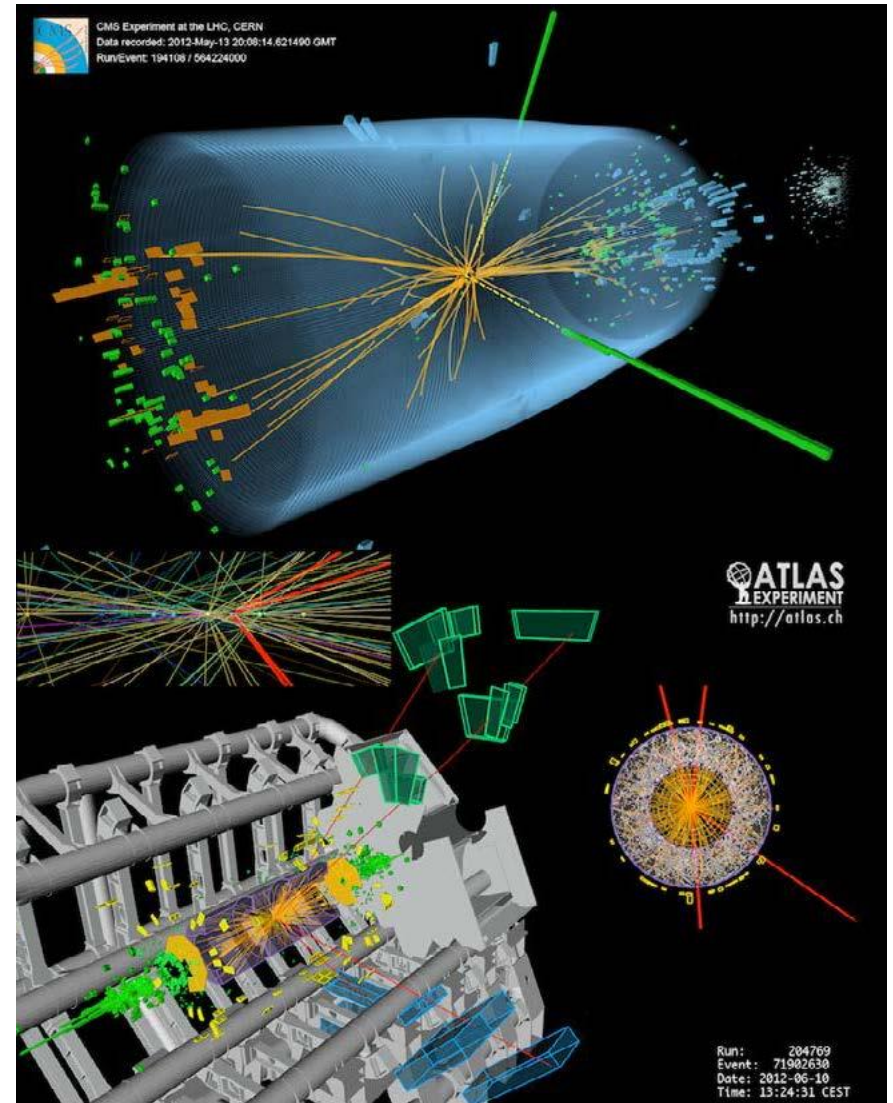
Tests of the internal consistency of  
the Standard Model

ATLAS

CMS

Future colliders  
FCC, ILC,  $\mu$  collider

5D calorimetry  
ClearMIND



# Neutrino and antimatter physics

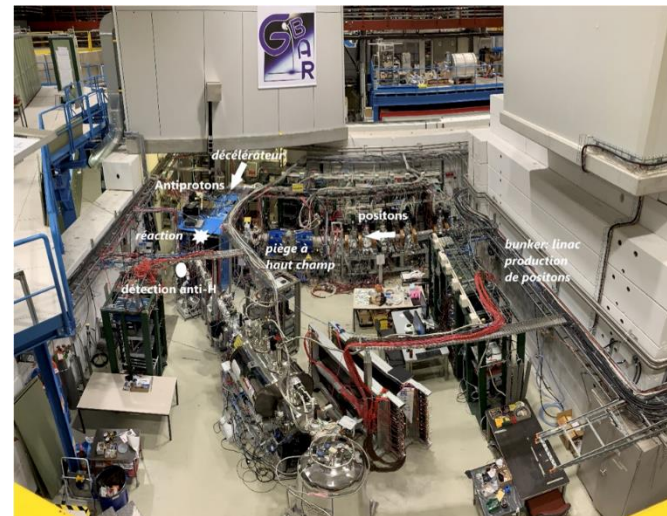
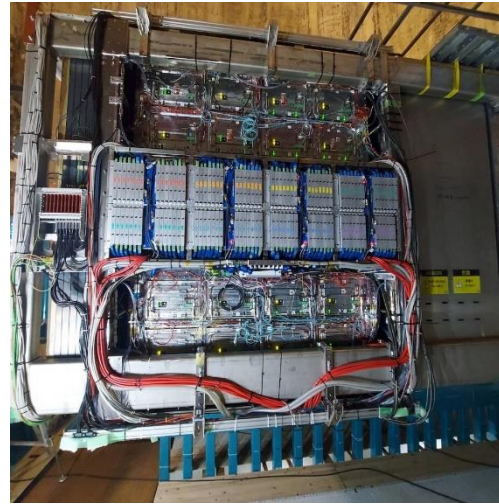
## Tests of the fundamental symmetries of the Standard Model

**Long baseline Neutrinos**  
T2K, HK, DUNE

**Low Energy Neutrinos**  
KATRIN, NUCLEUS

**Neutrinoless double beta decay**  
CUPID, BINGO, TINY

**Antimatter**  
GBAR





# Dark, extreme, gravitational Universe

## Filling the gaps in the Standard Model

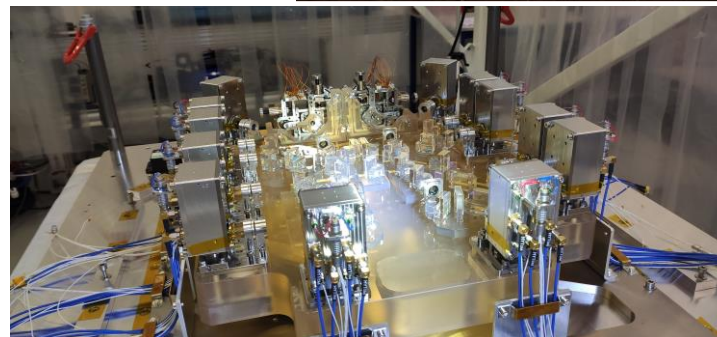
**Cosmology**  
eBOSS, DESI, CMB

**Gamma astronomy**  
HESS, CTA

**Multi-messenger astronomy**  
ANTARES, Astro-Colibri

**Axions**  
GLead

**Gravitational waves**  
LISA







**Welcome to Saint-Malo**

**Have a fruitful TOP 2024  
conference!**