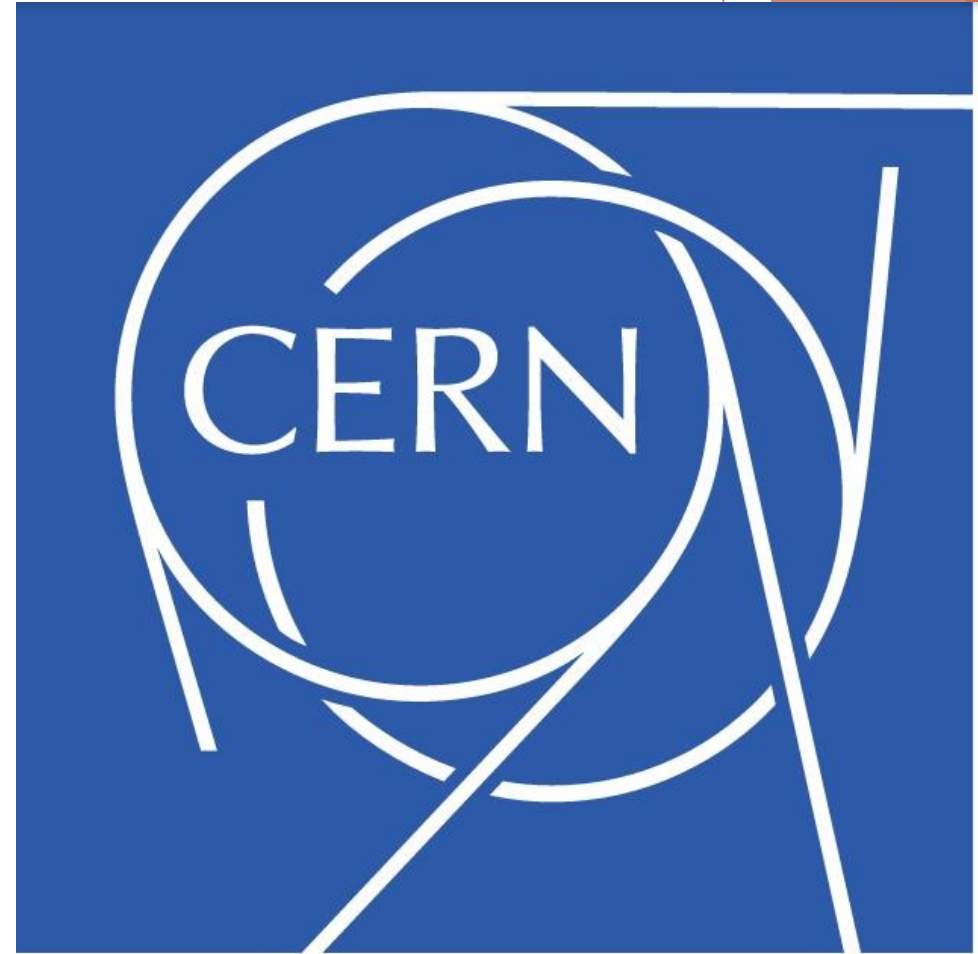


# Performance evaluation of readout circuit for LHC-ALICE

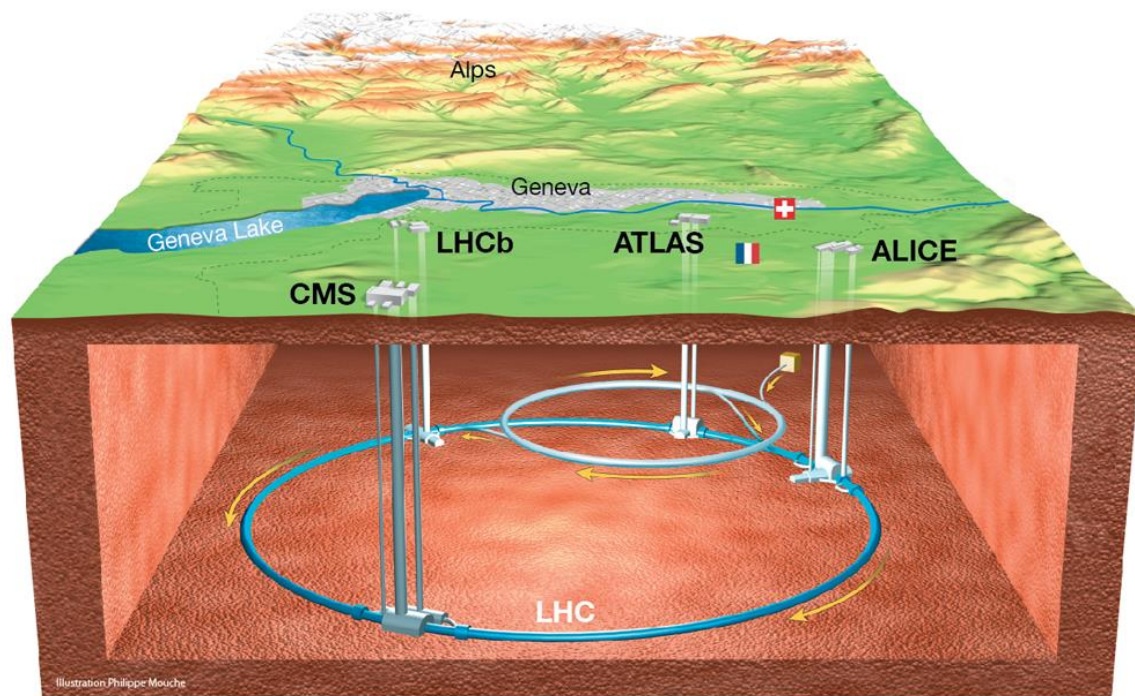
Kanemitsu Haruki

# CERN

- ▶ The European Organization for Nuclear Research, known as CERN is an intergovernmental organization that operates the largest particle physics laboratory in the world. Established in 1954, it is based in a northwestern suburb of Geneva, on the France-Switzerland border. It comprises 23 member states

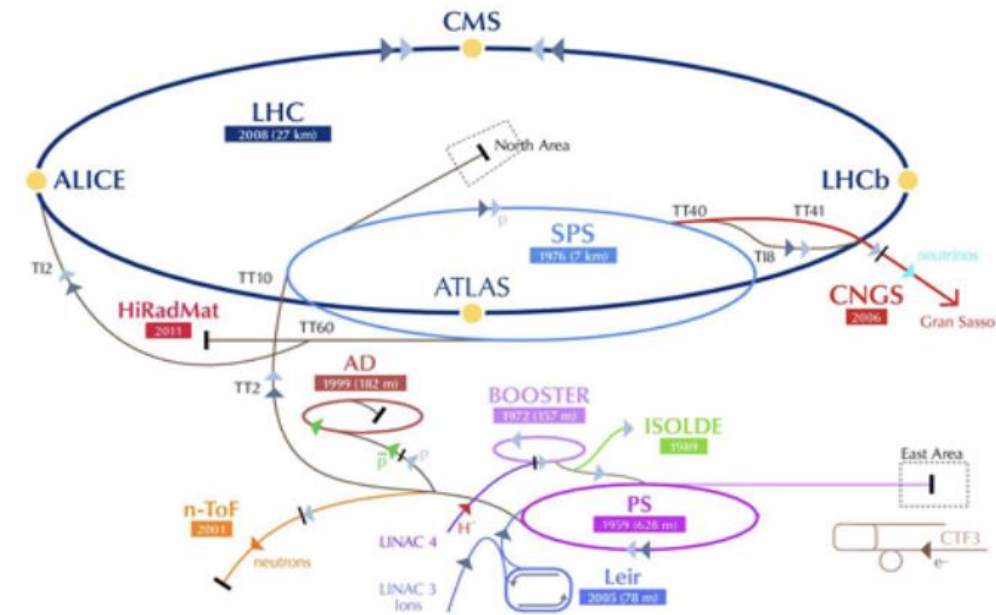


# CERN



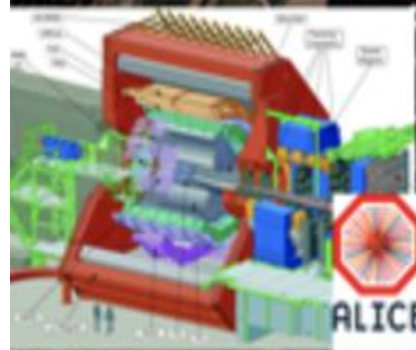
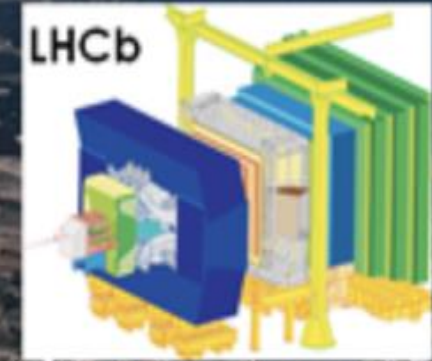
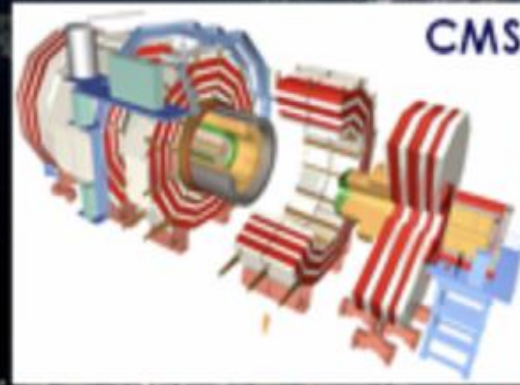
# LHC

LHC (Large Hadron Collider) is the world's largest hadron collider, which was built by the European Joint Organization for Nuclear Research (CERN, Cern Institute) and began physical operation in 2009.





# Large Hadron Collider (LHC)



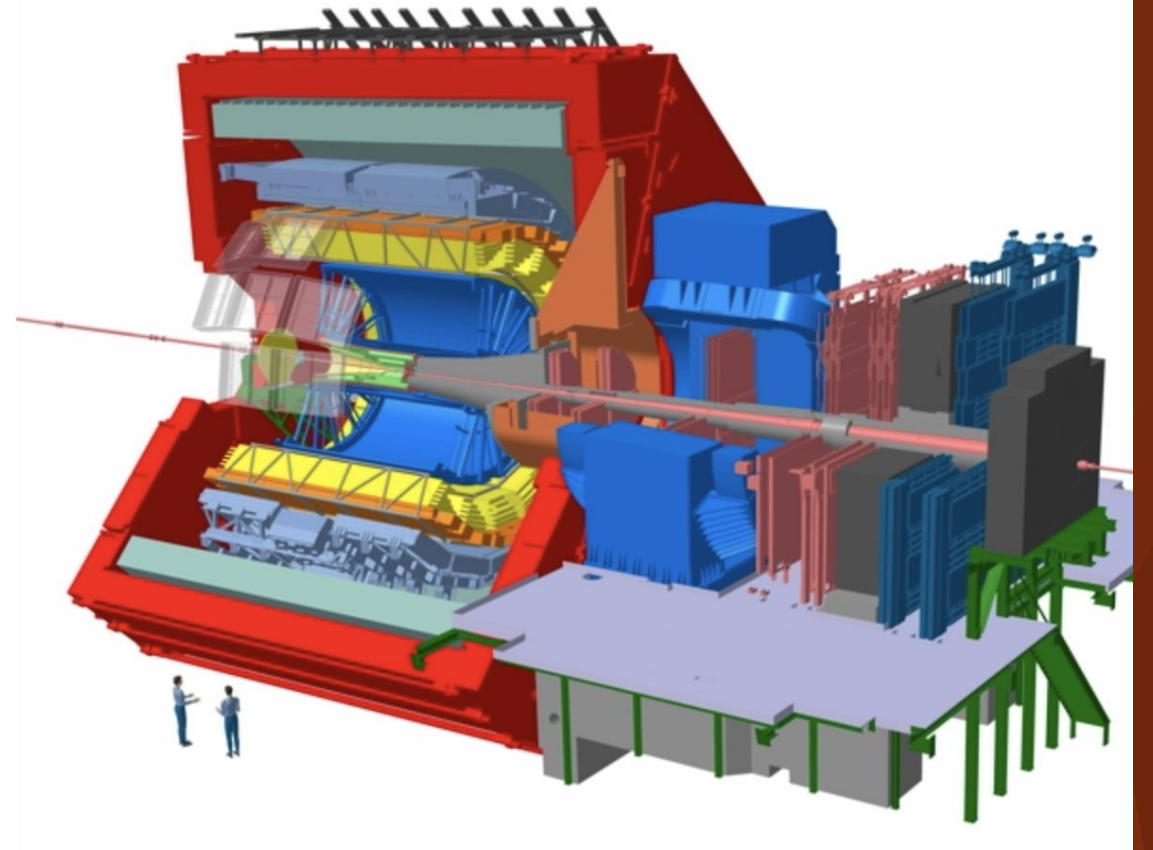
There are 6 experimental facilities (ALICE, CMS, ATLAS, LHCb, LHCf, TOTEM).

# LHC—ALICE

"A Large Ion Collider Experiment"

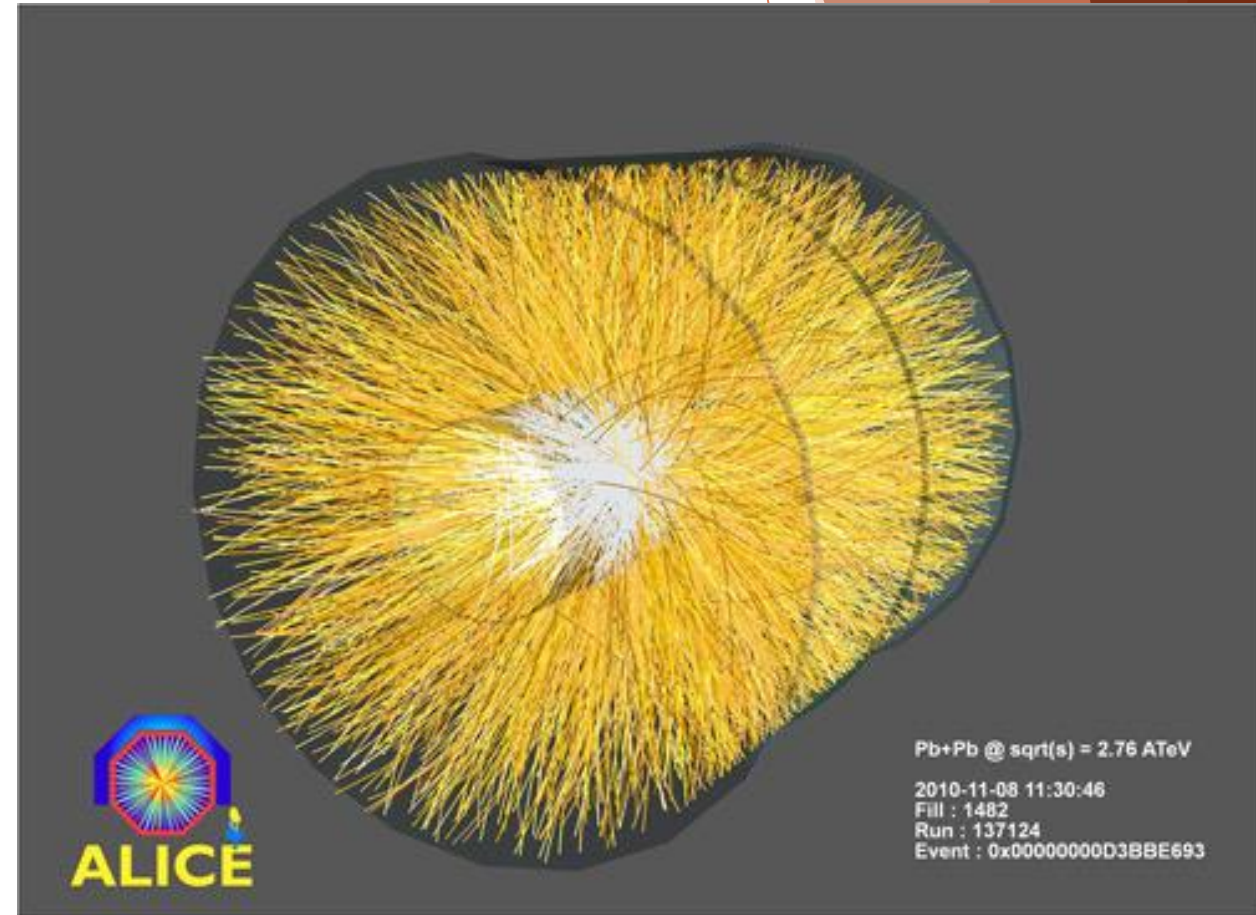
The LHC-ALICE experiment uses the world's largest hadron collider LHC, located at CERN (Cern Institute) near Geneva, Switzerland, to generate heavy ions, and generates the material phase "Quark Gluon Plasma (QGP)", which is said to have existed in the early universe immediately after the Big Bang, and its properties. Experiments aimed at elucidating the origin of the name of ALICE is "A Large Ion Collider Experiment".

As its name suggests, it is the only experimental team in the LHC experiment that specializes in high-energy heavy ion collisions.

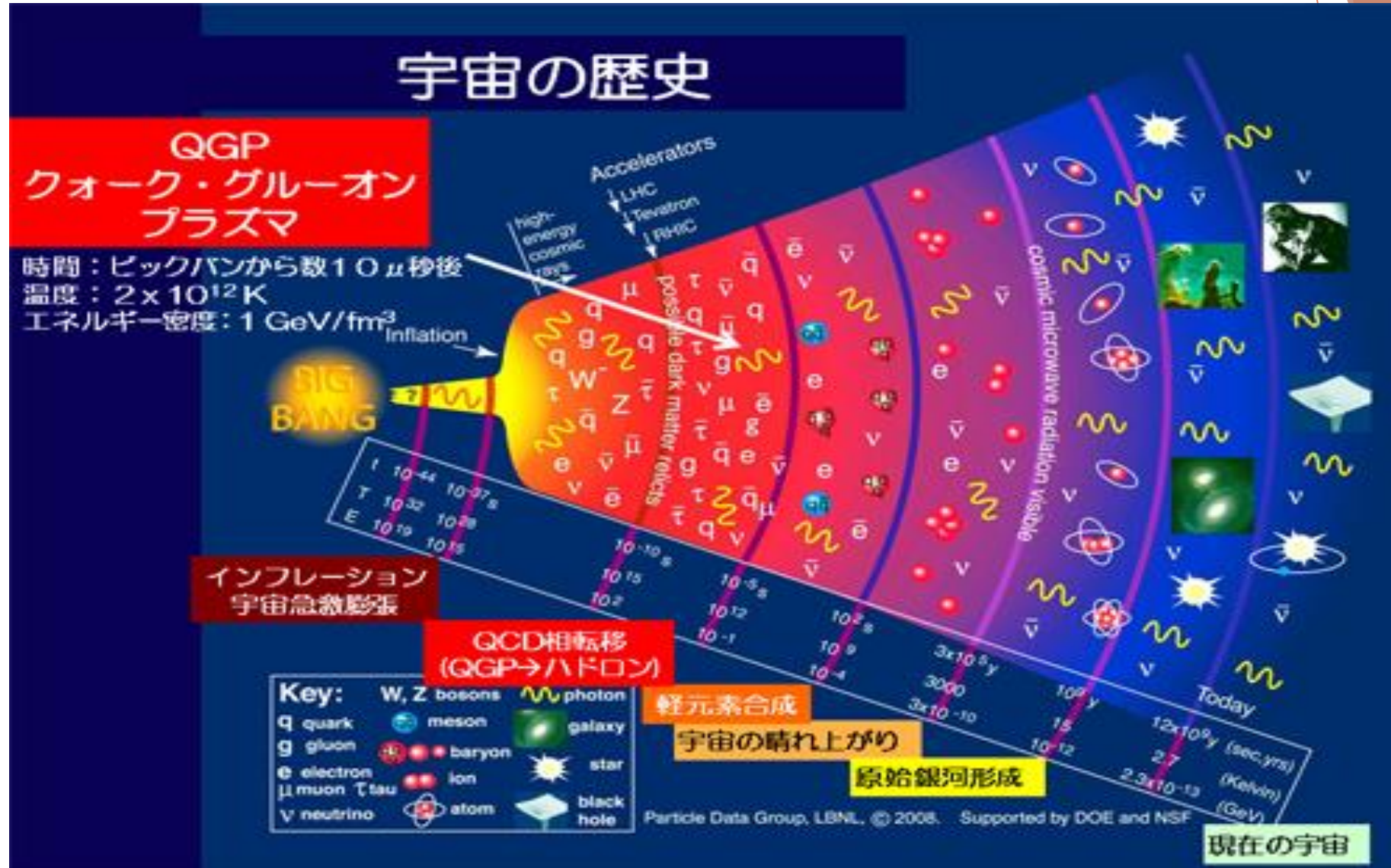


# LHC—ALICE

In the ALICE experiment, research results on high-temperature matter produced by LHC energy are being published one after another. In the future, it is expected that the accumulation and analysis of new data will further advance the elucidation of the properties of QGP, and clarify the properties of matter in the early universe and at the extreme high temperatures.

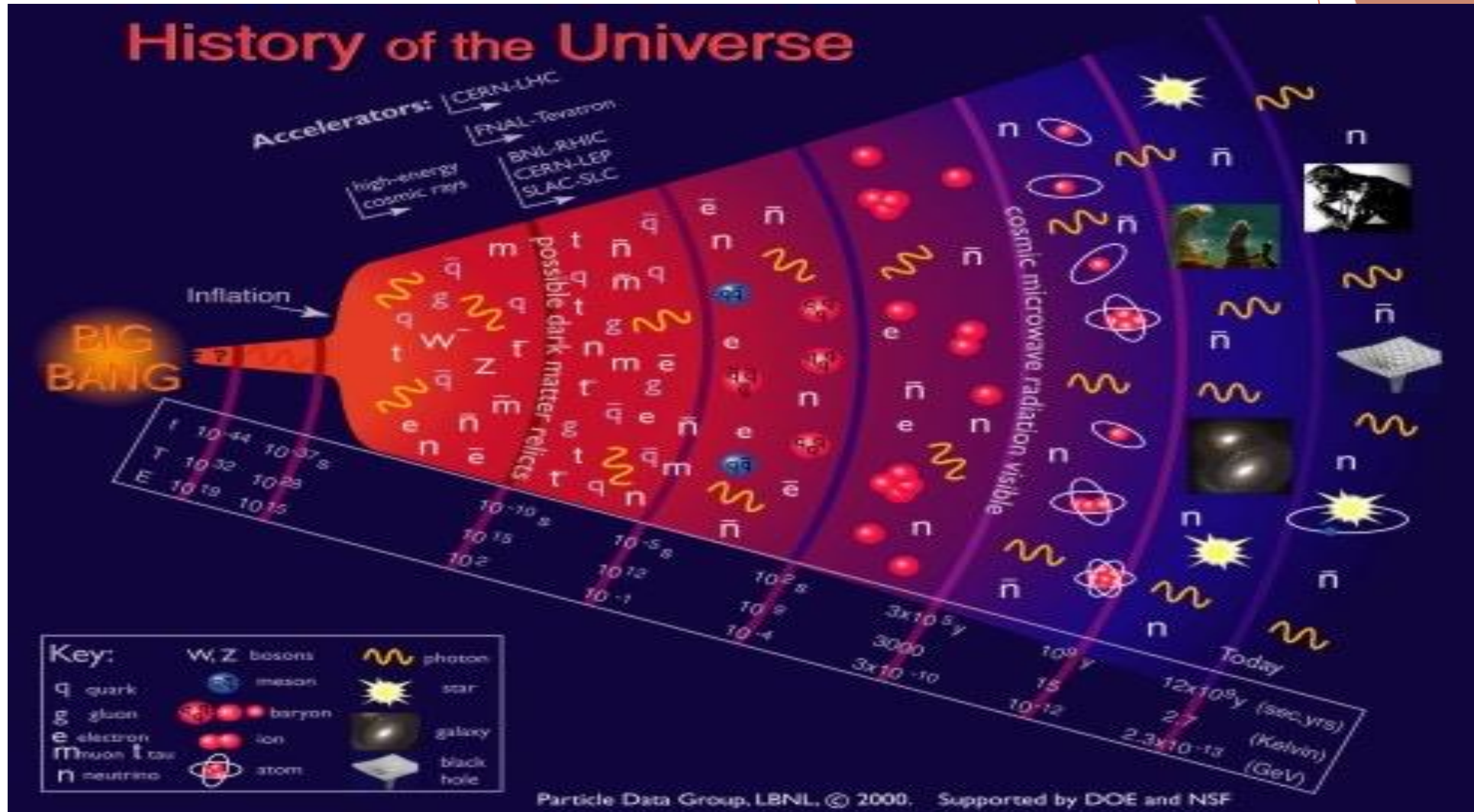


# QGP (Quark-Gluon-Plasma)



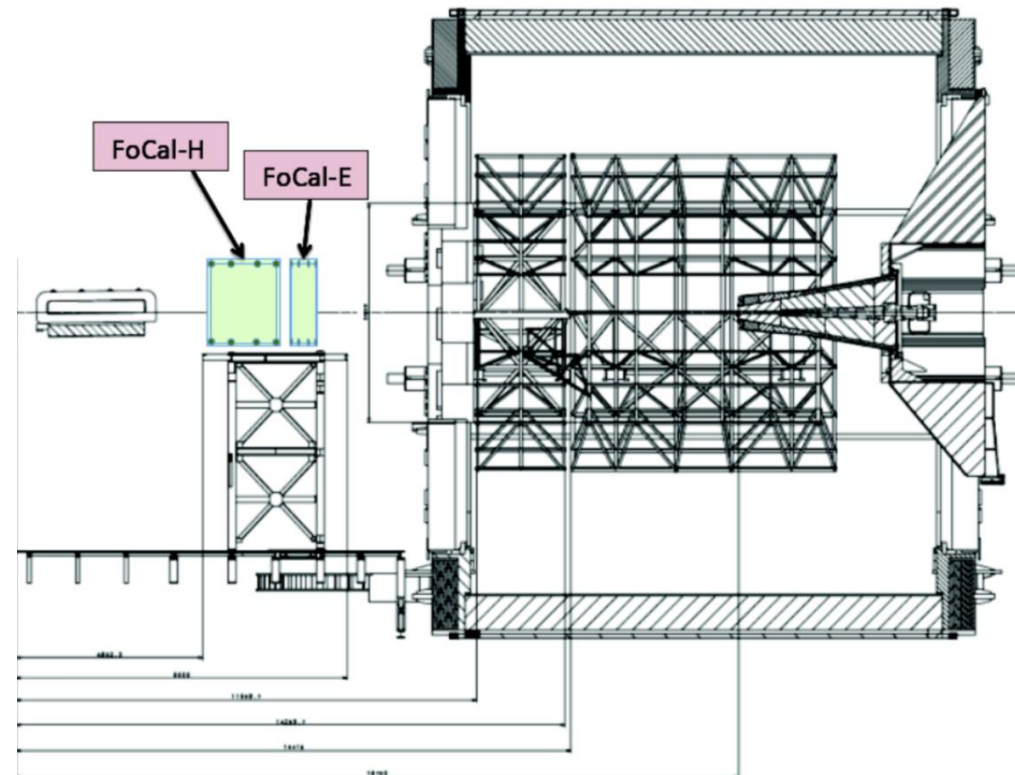


# QGP

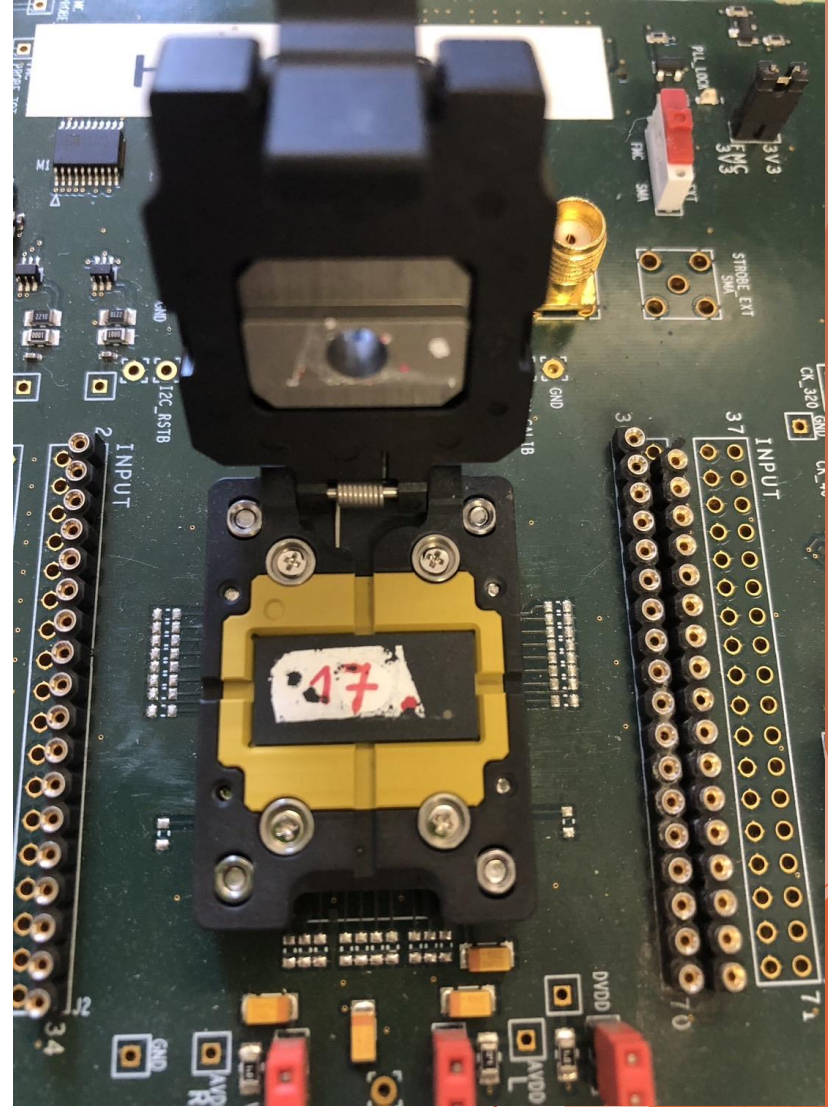
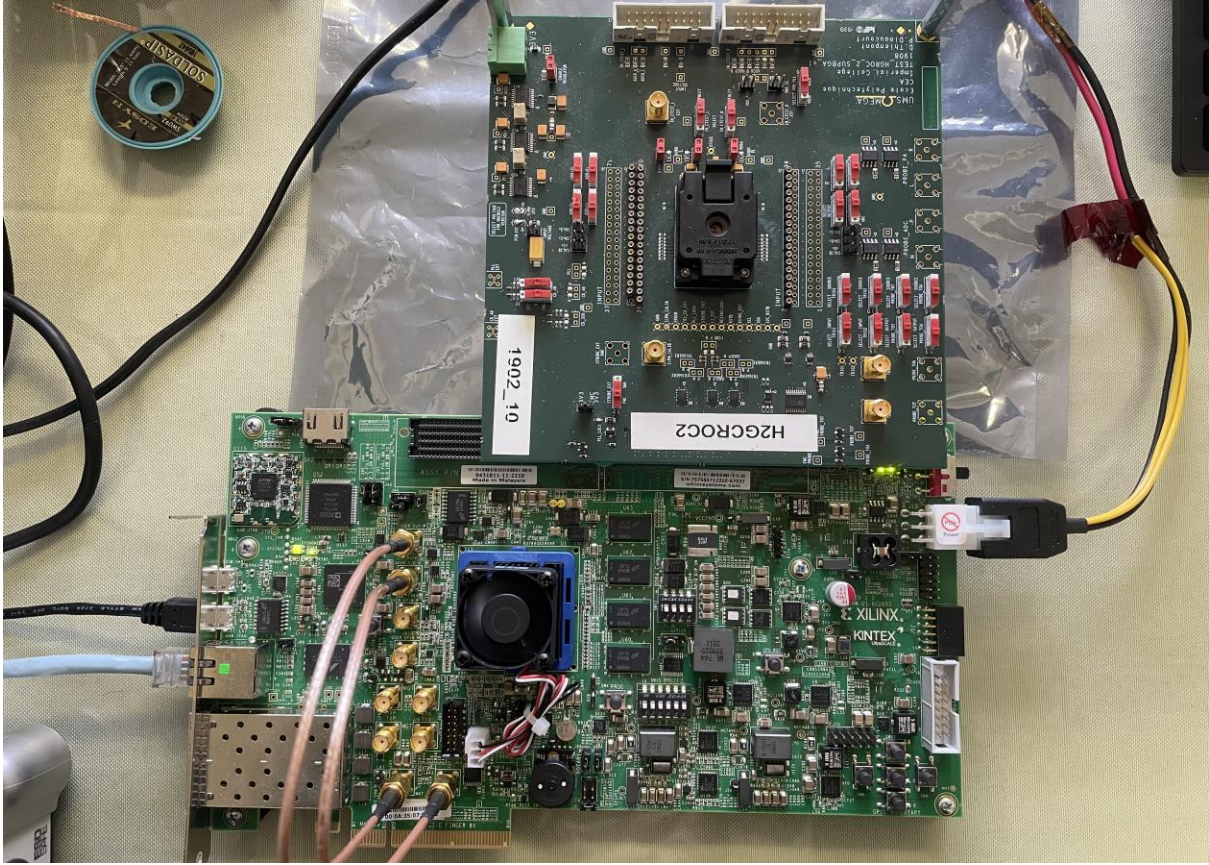


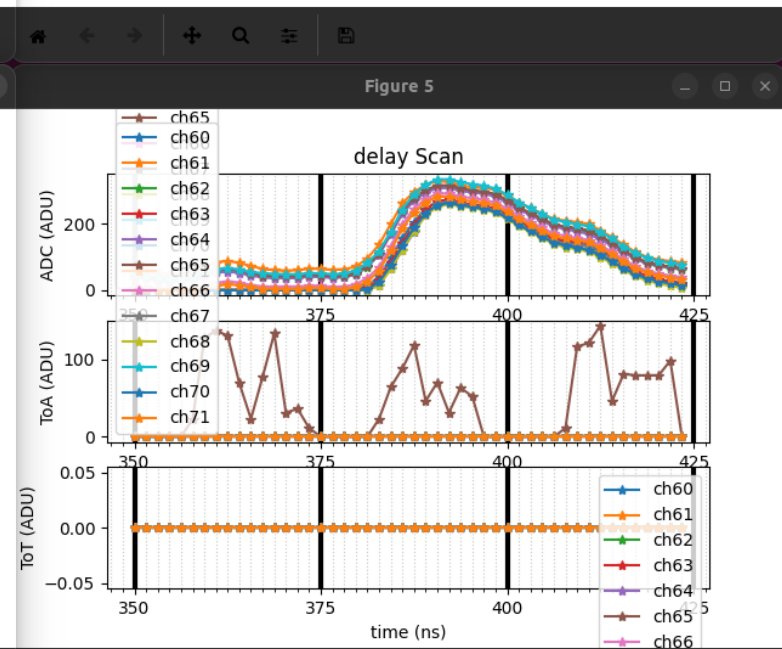
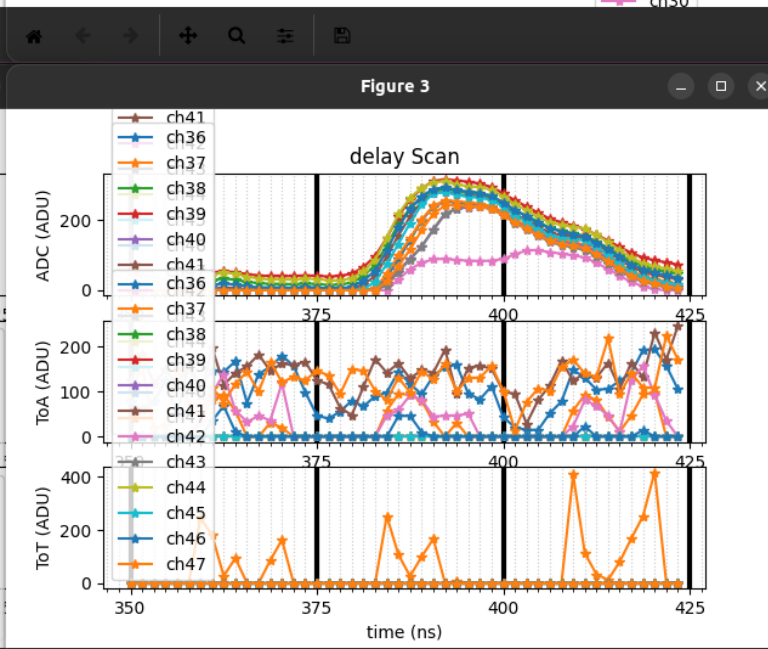
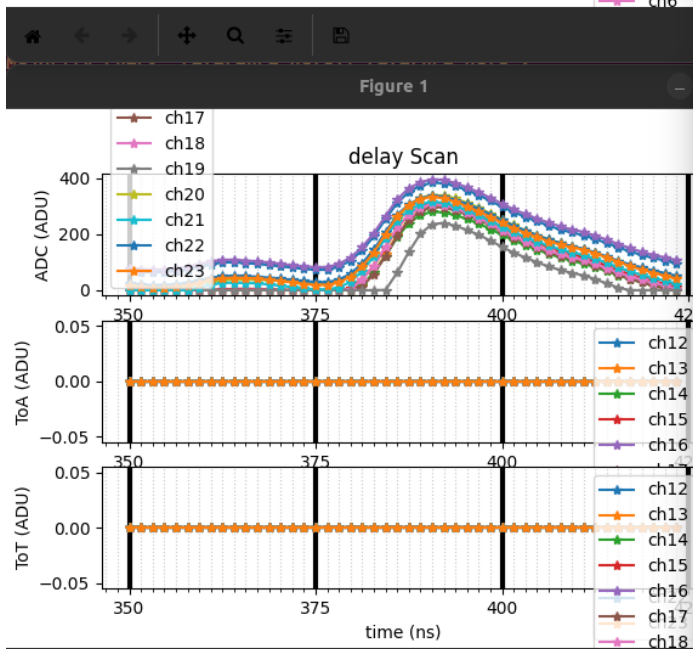
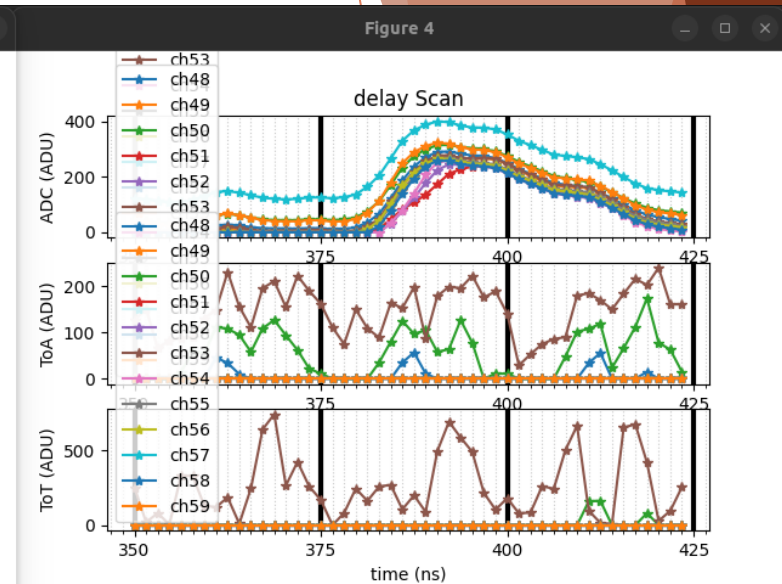
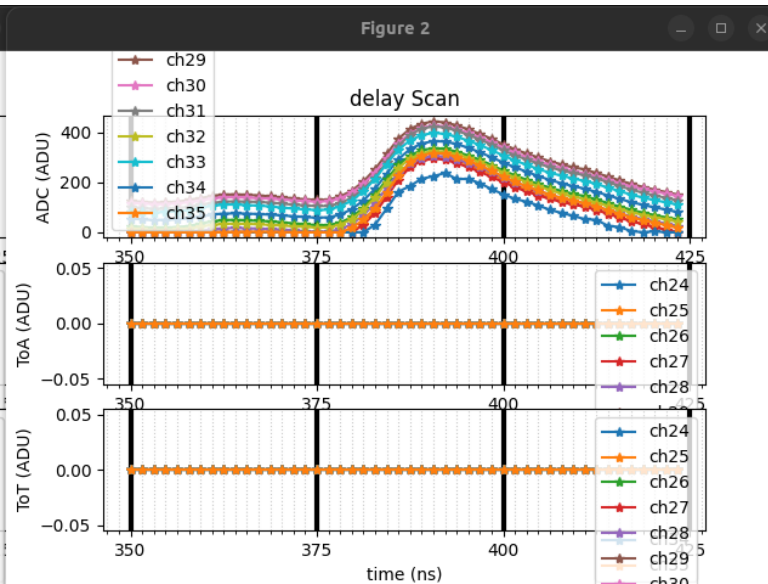
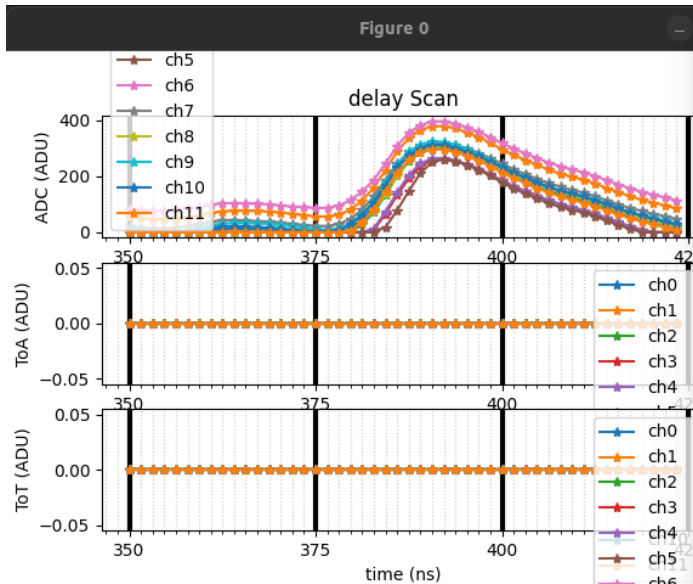
# FoCal

FoCal (Forward Calorimeter) is a calorimeter (energy measurement device) proposed as an upgrade for the LHC-ALICE experiment.



# HGCROC 2





# Future activities

- ▶ Deepen understanding of HGCROC2
- ▶ Confirmation of ADC linearity
- ▶ Function as a trigger
- ▶ Continue to deepen understanding of LHC-ALICE

Thank you so much for your kind attention.