

# ALICE Forward Calorimeter upgrade (FoCal): Physics program and performance

*Saturday 20 July 2024 08:45 (15 minutes)*

The FoCal is a high-granularity forward calorimeter to be installed as an ALICE upgrade during the LHC Long Shutdown 3 and take data in Run 4.

It will cover a pseudorapidity interval of  $3.4 < \eta < 5.8$ , allowing to explore QCD at unprecedented low Bjorken- $x$  of down to  $\approx 10^{-6}$  – a regime where non-linear QCD dynamics are expected to be sizable.

It consists of a compact silicon-tungsten sampling electromagnetic calorimeter with pad and pixel readout to achieve high spatial resolution for discriminating between isolated photons and decay photon pairs. Its hadronic component is constructed from copper capillary tubes with scintillator fibers.

The detector design allows measuring a multitude of probes, including direct photons, jets, as well as photo-production of vector mesons in ultra-peripheral collisions and angular correlations of different probes.

We will give an overview of the FoCal performance using results from recent test beams of small-scale prototypes.

## Alternate track

### I read the instructions above

Yes

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