

Development of the ALICE FoCal-E pad detector

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The ALICE Collaboration is planning to install a new forward calorimeter (FoCal) as a detector upgrade to the ALICE experiment at LHC during the next long shutdown from 2027 to 2029. FoCal consists of the Si+W electromagnetic and conventional sampling hadronic subsystems (FoCal-E and FoCal-H, respectively), and it will cover the pseudorapidity interval of $3.4 < \eta < 5.8$ at a place of 7 meters in the forward region seen from the interaction point. FoCal-E has 18 low-granularity layers with silicon pad sensors and 2 high-granularity layers with silicon pixel sensors. In this talk, we report recent activities to develop the FoCal-E pad layers in Japan including I-V and C-V characteristics of p-sub and n-sub silicon pad sensors under the temperature range from 20 to 50 degrees C and new results of the irradiation test at RIKEN RANS and beam test at ELPH.

Theory / experiment

Experiment

Group or collaboration name

The ALICE Collaboration

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