

Gabriele Bigongiari
Introduction
of ICRC 2015 Proceeding

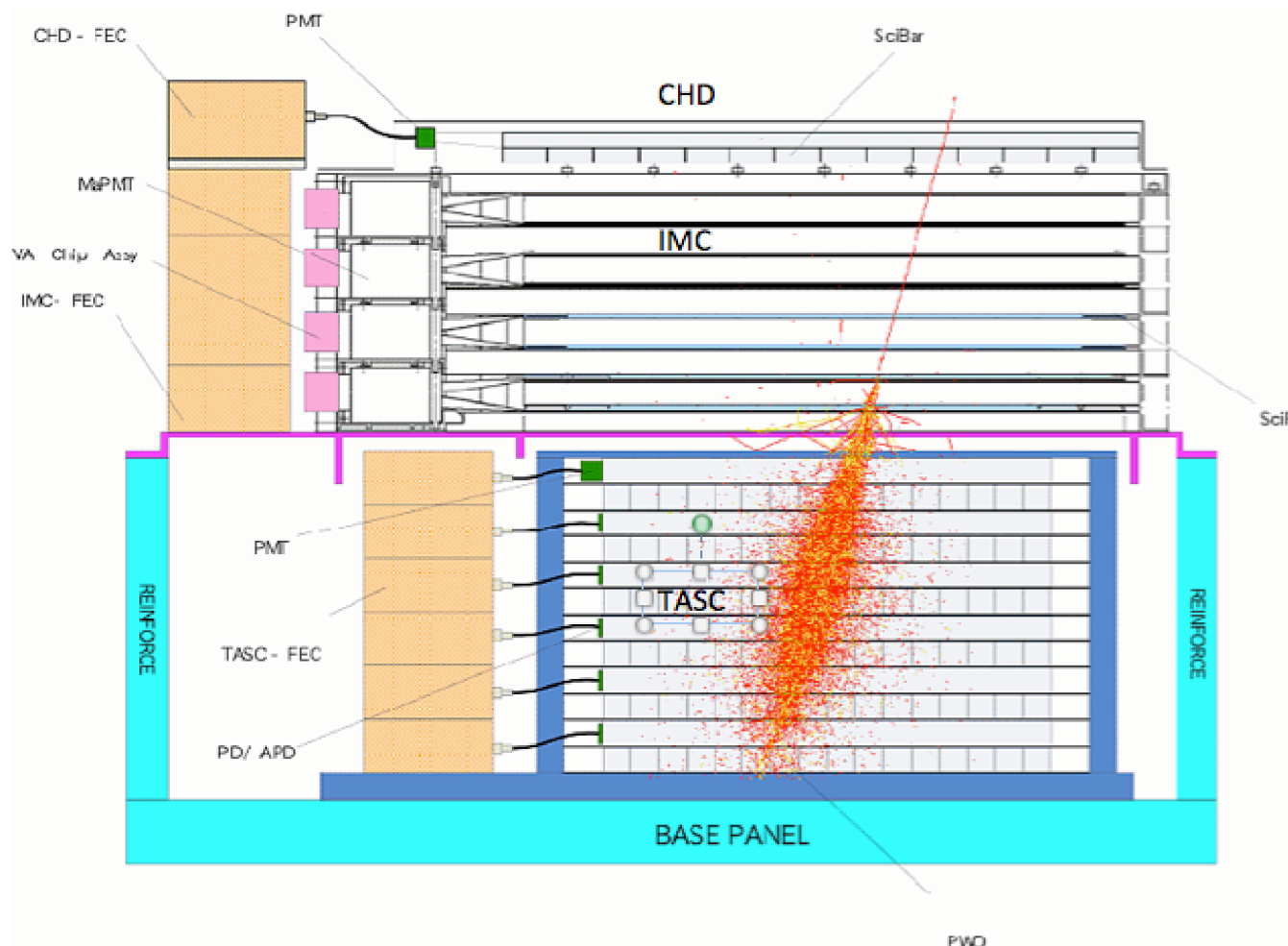
CALET perspectives for calorimetric measurements of high energy electrons based on beam test results

Gabriele Bigongiari for the CALET Collaboration

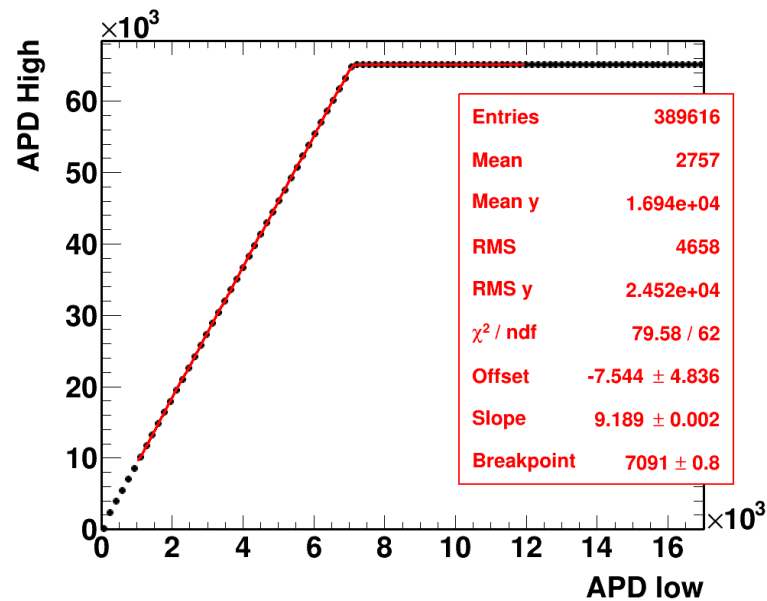
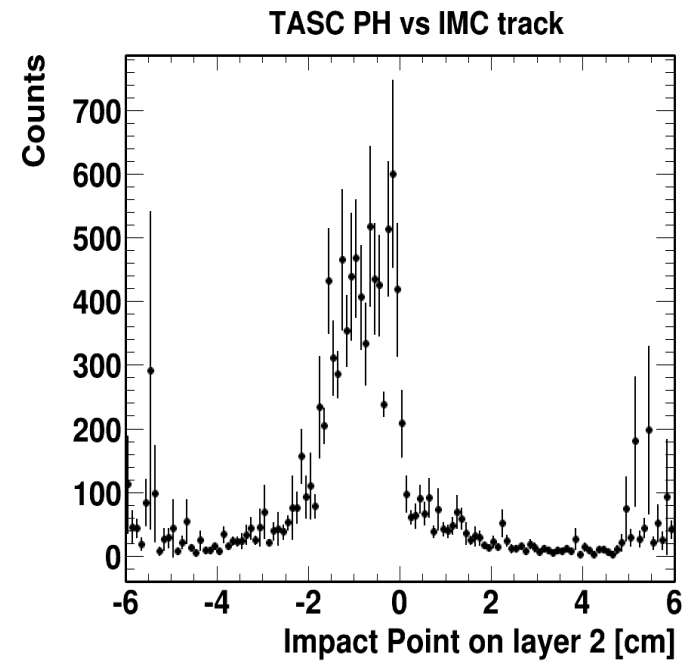
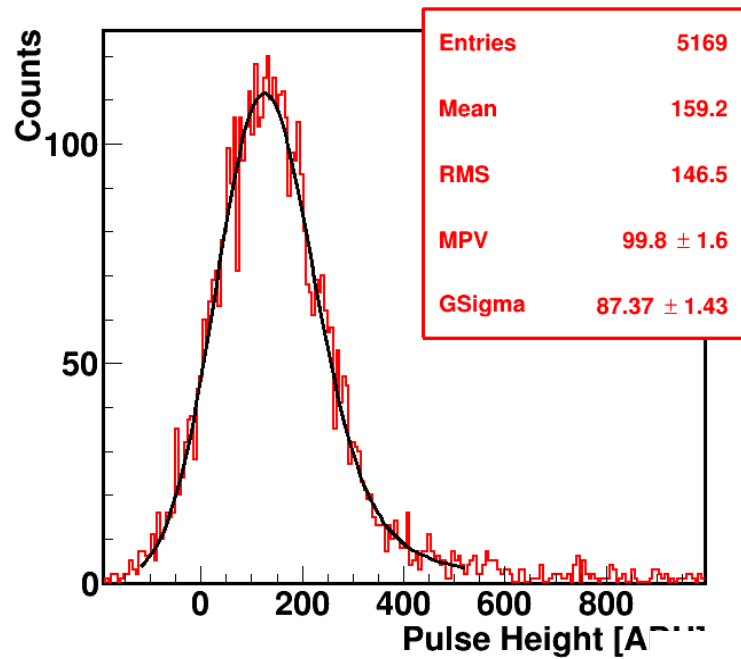
CALET is a space mission currently in the final phase of preparation for a launch to the International Space Station (ISS), where it will be installed on the Exposure Facility of the Japanese Experiment Module (JEM-EF). One of the main science goals of the experiment is the measurement of the inclusive electron (+positron) spectrum.

By integrating a sufficient exposure on the ISS, CALET will be able to explore the energy region above 1 TeV, where the presence of nearby sources of acceleration is expected to shape the high end of the electron spectrum and leave faint, but detectable, footprints in the anisotropy. In order to meet this experimental goal, CALET has been designed to achieve a large proton rejection capability ($>10^5$) thanks to a full containment of electromagnetic showers in a $27 X_0$ thick calorimeter (TASC) preceded by a $3 X_0$ fine-grained pre-shower calorimeter (IMC) with imaging capabilities. In this paper the expected performance of the instrument with electrons will be discussed on the basis of the results of measurements performed during beam calibration tests at CERN-SPS at beam energies up to 290 GeV.

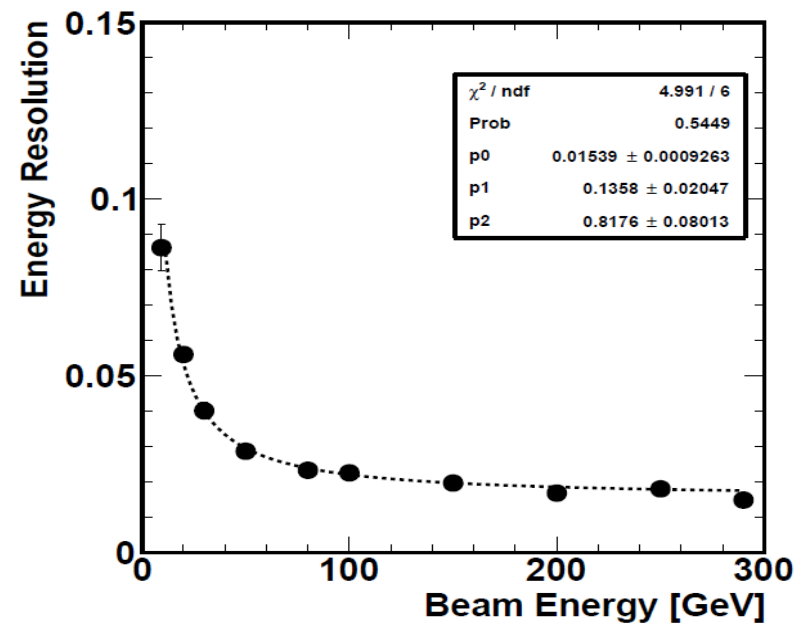
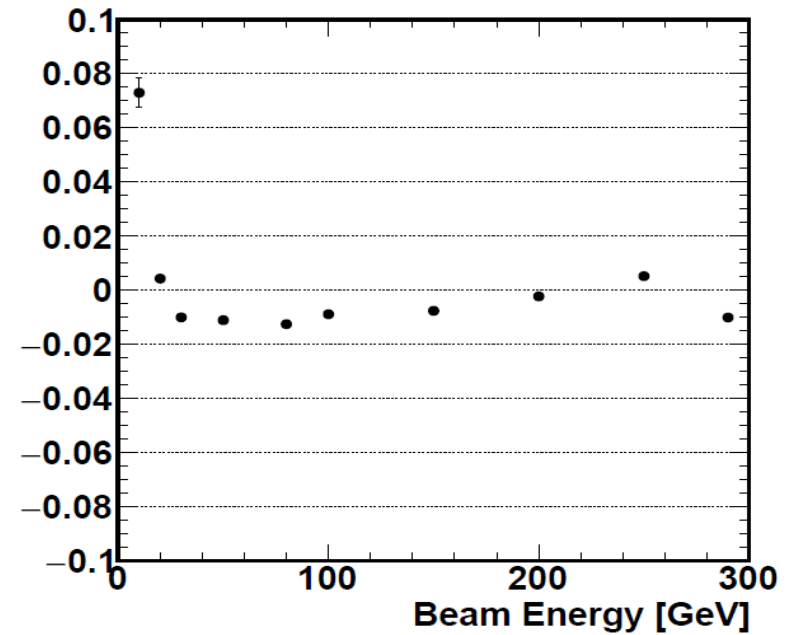
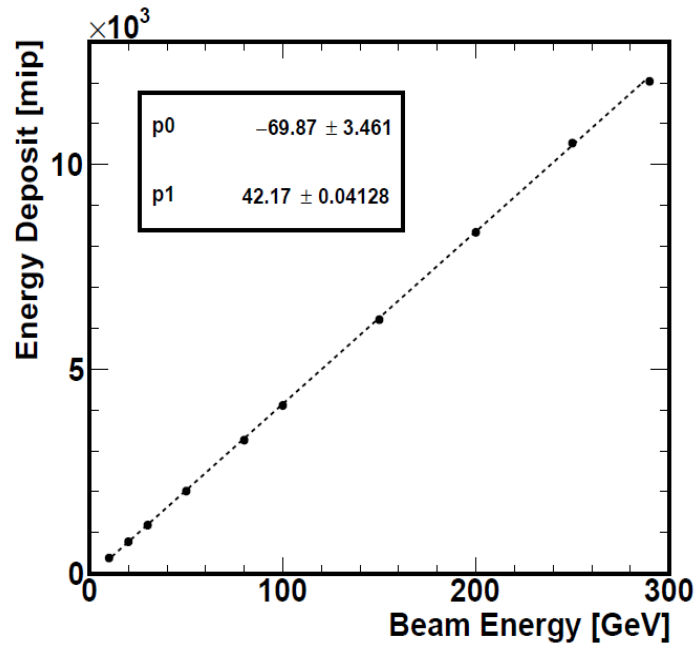
CALET instrument



Calibration of the TASC



TASC response with electrons



Perspectives for electrons

