

Towards a realistic MC

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Requirements

JER due to miscalibration,
instabilities,

use only "blind" automatic procedures

$$\sim \sqrt{0.1 * \delta_{HCAL} + 0.25 * \delta_{ECAL}} < 2\%$$

$$\delta_{ECAL} < 8\%$$

estimation: with prototype, eg. apply calibration
from one data sample to another

SKIROC/SPIROC cross talks,
betw. cells (Si+Sc) and GR (Si)
Non-uniformity (2D?) of
Sc response and its spread
dead zone at edge

from measurement

measure from prototype

Requirements

SiPM calibration

0. Per cell: how to calibrate (“reasonable” errors, reproducing prototype performance, its syst.)
Errors are not random, but correlated (eg. through common calibration setup).
1. Poisson stat. at low signals
2. Accuracy of MIP calibration per cell (LED includes interpixel crosstalk!), extrapolation errors
3. Saturation curve syst. (per cell), Poisson stat. of non-fired SiPM pixels, two firings of the same SiPM pixel, nonuniform WLS fiber image: ring, center is less illuminated
4. Temperature dependence syst.

Dead cells
Noise triggers
ECAL perform. safety margin
(look at expected vs real performance from real exp.)