
Subject: Changes in simplified digitisation of emc
Posted by [Dima Melnychuk](#) on Fri, 18 Dec 2009 13:13:48 GMT
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Hi all,

I have modified a little bit simplified digitisation of emc to take into account two most relevant parameters: electronic noise and photon statistics.

With `UseDigiEffectiveSmearing=1` parameter in `emc.par` the task `PndEmcMakeDigi` will smear energy taking into account parameters `DetectedPhotonsPerMeV`, `ExcessNoiseFactor` and `Incoherent_elec_noise_width_GeV` according to:

$$\sigma/E = \sqrt{(a/\sqrt{E})^2 + (E_{\text{noise}}/E)},$$

where $a = \sqrt{F/N_{\text{p.e.}}}$,

F - excess noise factor and $N_{\text{p.e.}}$ - number of photoelectrons.

This option can be useful for comparison with prototype data.

Best regards,
Dima