

EXPERT ROOT - Developing #335

time signals in sumation data

06/12/2019 08:13 PM - Ivan Muzalevsky

Status:	Открыта	Start date:	06/12/2019
Priority:	Нормальный	Due date:	
Assignee:		% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:			
Description			
one should obtain time distributions of all detectors relate to tF5. Analysis of such distributions can be usefull to estimate time calibration parateres using for digitization.			

History

#1 - 06/12/2019 08:34 PM - Ivan Muzalevsky

In all following figures left colomn of pictures relates to the simulation, right to the experimental data.

For the experimental data several cuts were used:

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Top pictures: dE-ToF pictures. To make these distribution matched, one have to use time delay parameter == 68.553 [ns].

Middle pictures: times in first (tF3) ToF plane

Bottom pictures: times in the second (tF5) ToF plane

dE_ToF.png

From these pictures it's not clear how to estimate the ToF calibration parameters for simulation

Moreover, time distribution for simulated data are more localised (more narrow peak). Although the value of the beam energy had similar distribution as in experiment. One may see it from the dE-ToF picture.

#2 - 06/12/2019 08:41 PM - Ivan Muzalevsky

On the following pictures times from the central telescope, related to tF5, were compared:

for all pictures related to experimental data, tF5 was increased by delayed coefficient 68.553 ns

for simulated data extra cuts (which were supposed as trigger==1 selection analog) were used:

- number of fired strips in central Si telescope==1
- number of fired crystals>0
- there were no signals in both side telescope

Top pictures: Times for X strips (difference between Sin and Exp data ~40 ns)

Middle pictures: Times for Y Strips (difference between Sin and Exp data is also ~40 ns)

Bottom pictures: Times for Csl crystals. *I cant compare pictures, for me it is weird.*

centTimes_digi.png

At the following picture times of the CsI crystals with maximum amplitudes are shown (time related to tF5 of course), for sim and exp data.
centTimes_analyse.png