

Update on PMT simulation

25-07-2023

PMT simulation update

- simulation (CMOS + PMT) code is here:

<https://github.com/CYGNUS-RD/digitization/tree/pmt> (pmt branch)

- Running time:

8 sec/track for 8 keV ER (38% of the time is for the PMT, the rest is mostly for saturation)

17 sec/track for 16 keV ER (53% of the time is for the PMT)

40 sec/track for 30 keV ER (**67% of the time is for the PMT**)

- next steps:

- reconstruct simulated waveforms with the updated reconstruction code (by David), here https://github.com/pietro14/reconstruction/tree/pmt_reco_w23 [pmt_reco_w23 branch] (currently able to reconstruct only real PMT and CMOS data)
- compare Fe55 PMT data with simulation (**who?**)

super clust.

waveforms

averaged waveform

Longer tracks look reasonable in simulation

50 keV ER



50 keV ER

