

Excess of events at low GemDeltaEventTime

The histograms of GemDeltaEventTime show the peak right above 26.5 us (dead time), which was noticed first during muon data collection on the ground and now has been [noticed in flight data](#).

The effect is due to the onboard filter (there is no peak if onboard filter is not applied), I studied this effect for ground muon data, the results could be found in the [attached pdf file](#).

In summary, the calorimeter readout noise at low GemDeltaEventTime adds energy to the CAL and significantly changes the onboard filter efficiency for low energy events.