SiD background simulations
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Update on time evolution of particle origins maps & buffer depth plots

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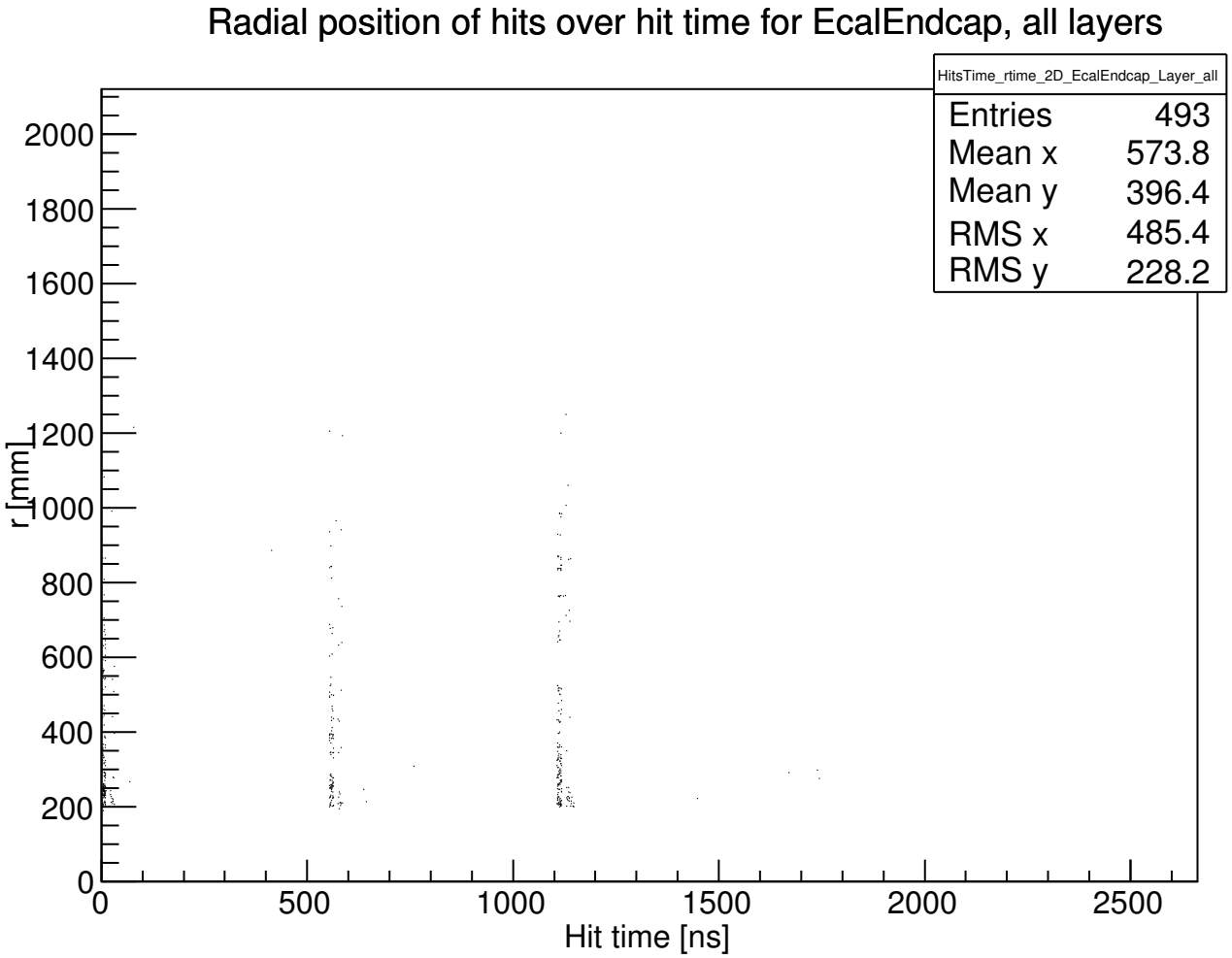
Time evolution of particle origins maps

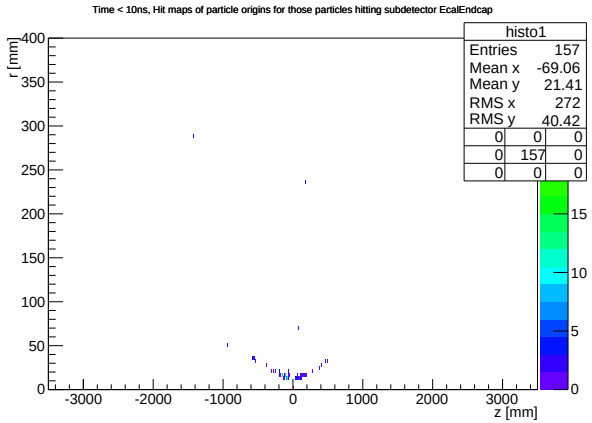
Plot from last time:



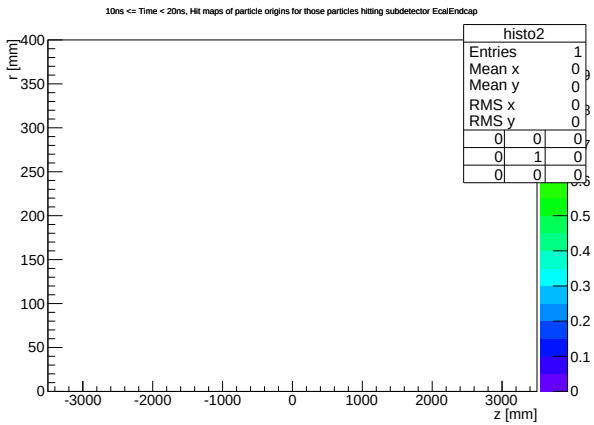
Time evolution of particle origins maps

Maps of particle origins of those particles hitting the EcalEndcaps, for the time intervals:

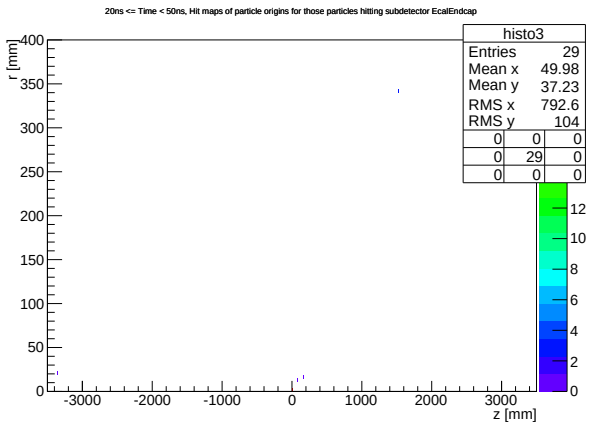
t<10ns



10 ≥ t < 20ns

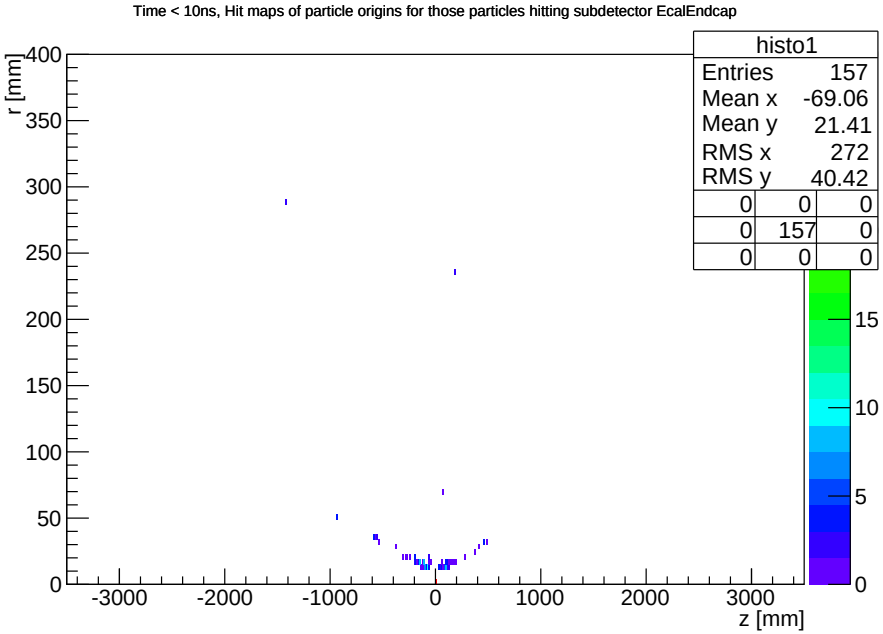


20ns ≥ t < 50ns

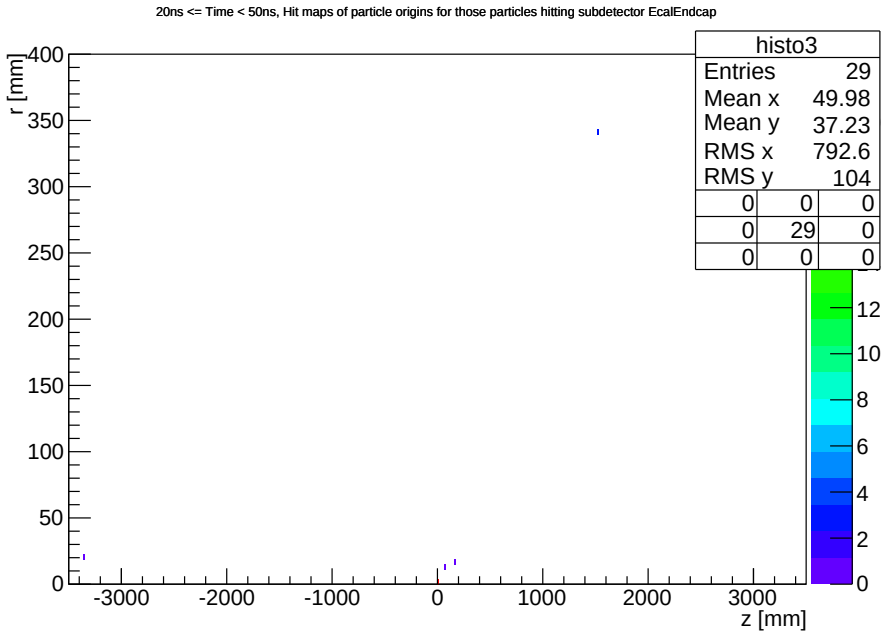


Time evolution of particle origins maps

t<10ns

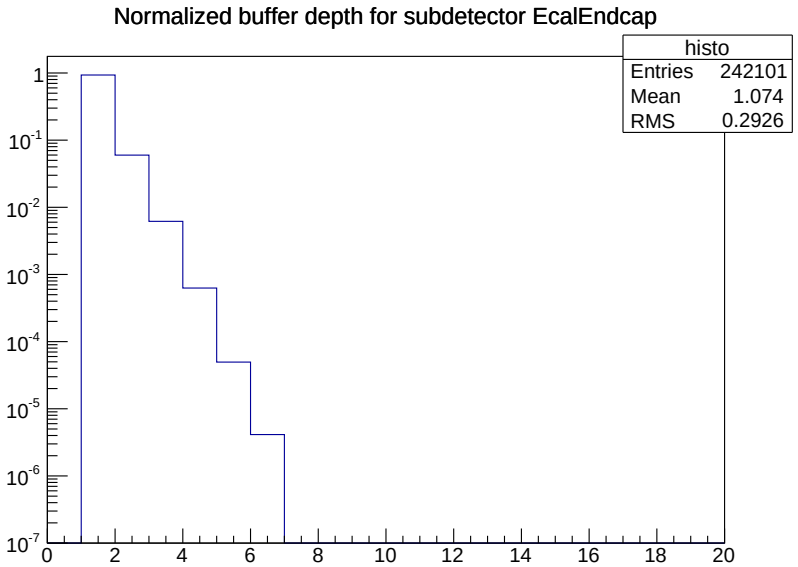


20ns ≥ t < 50ns

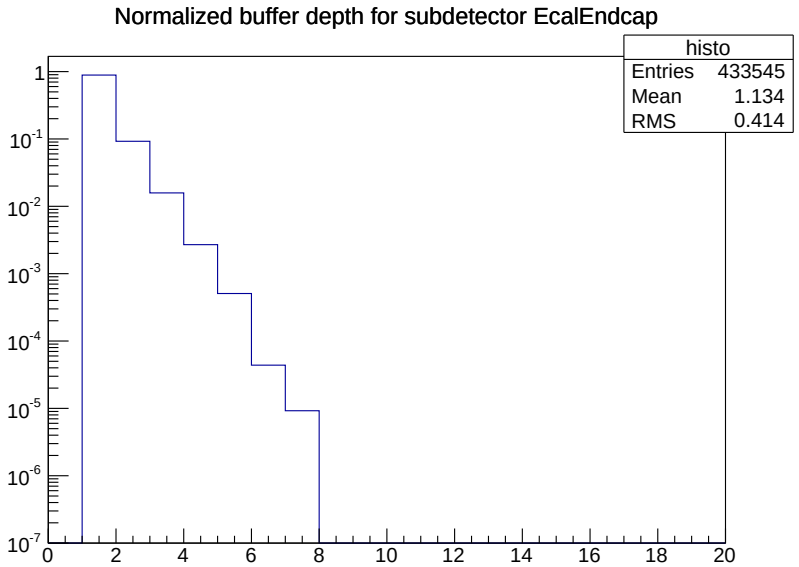


Buffer depth for EcalEndcaps, pair background

Normalized: the area underneath the histogram is 1
→ plot shows probabilities of specific occupancy



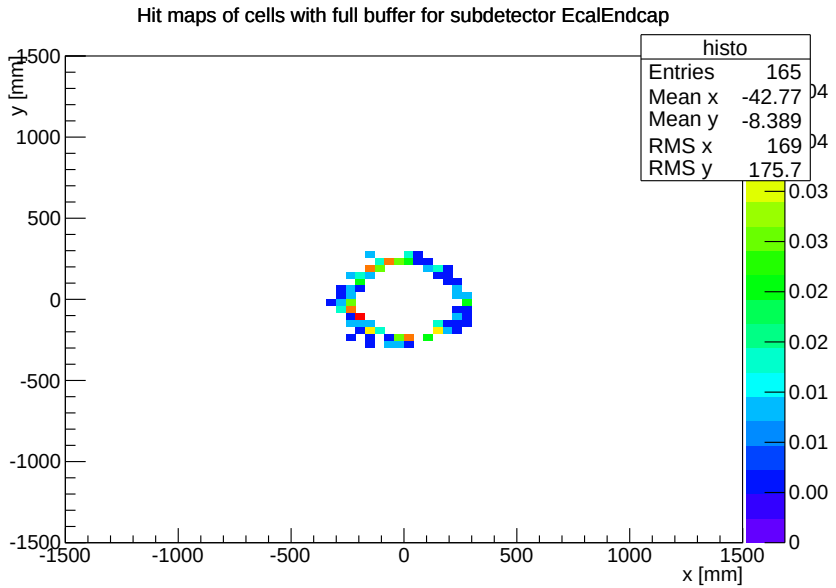
Left: for 1312 bunches, the probability of cells being hit 4 times is $\sim 5 \cdot 10^{-4} \approx 0.05\%$



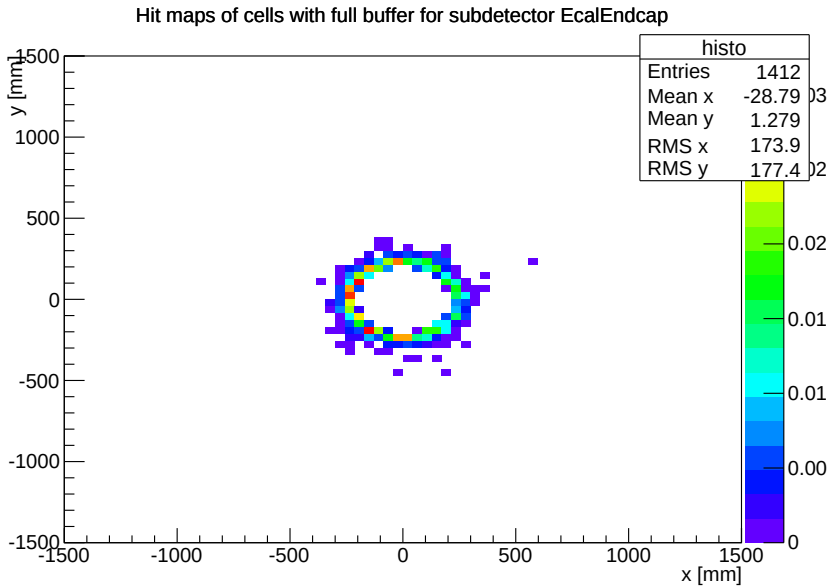
Right: for 2500 bunches, the probability of cells being hit 4 times is $\sim 1.5 \cdot 10^{-3} \approx 0.15\%$

Hit maps of the EcalEndcaps for cells with full buffer

Only the cells that are **hit 4 or more times** are drawn.



Left: for 1312 bunches



Right: for 2500 bunches