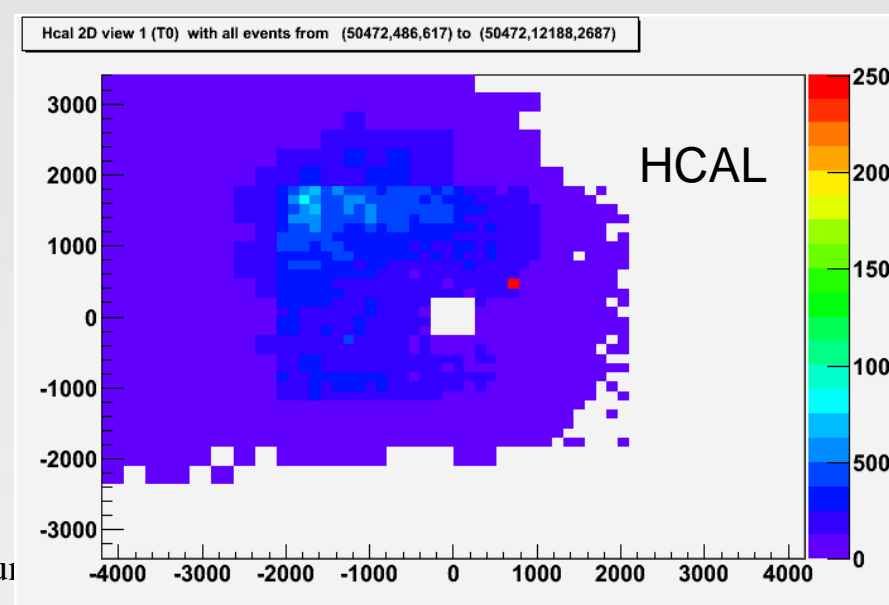
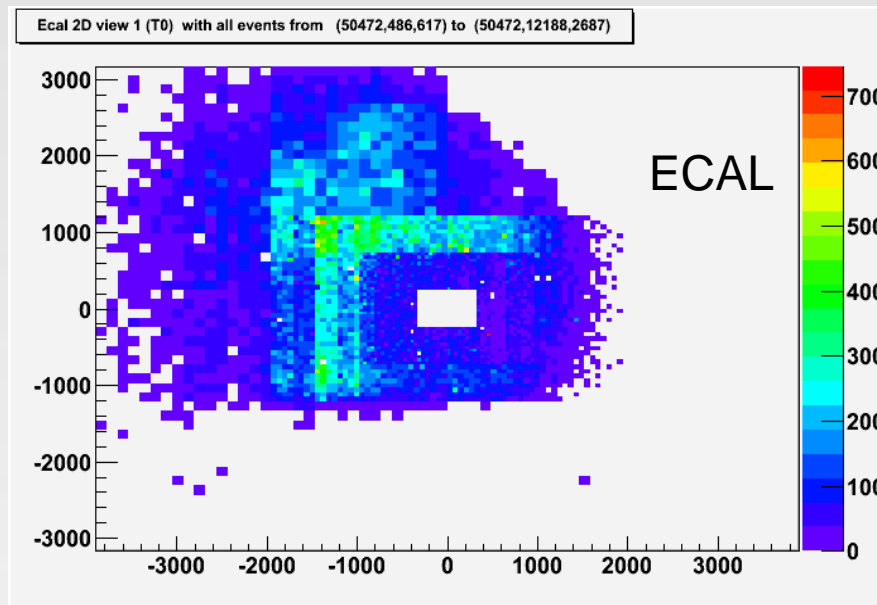
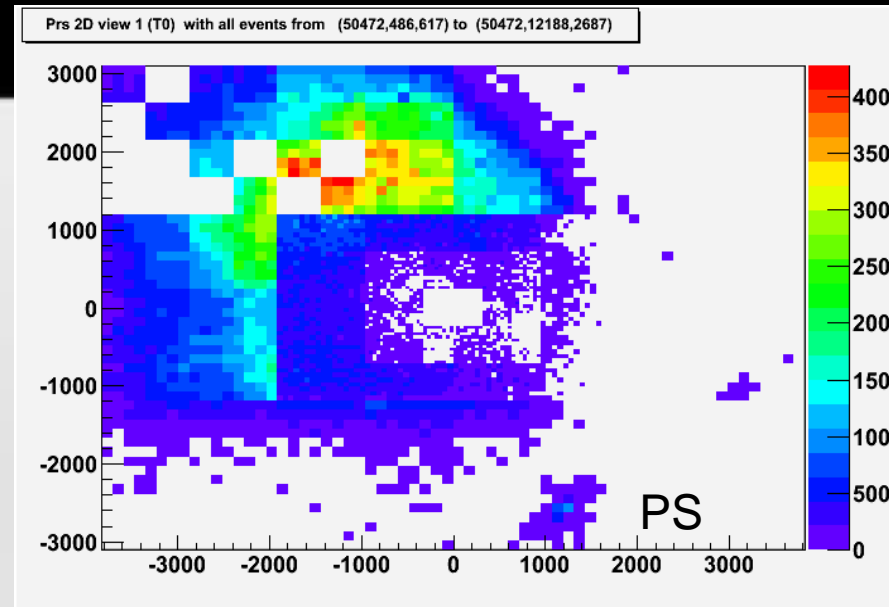
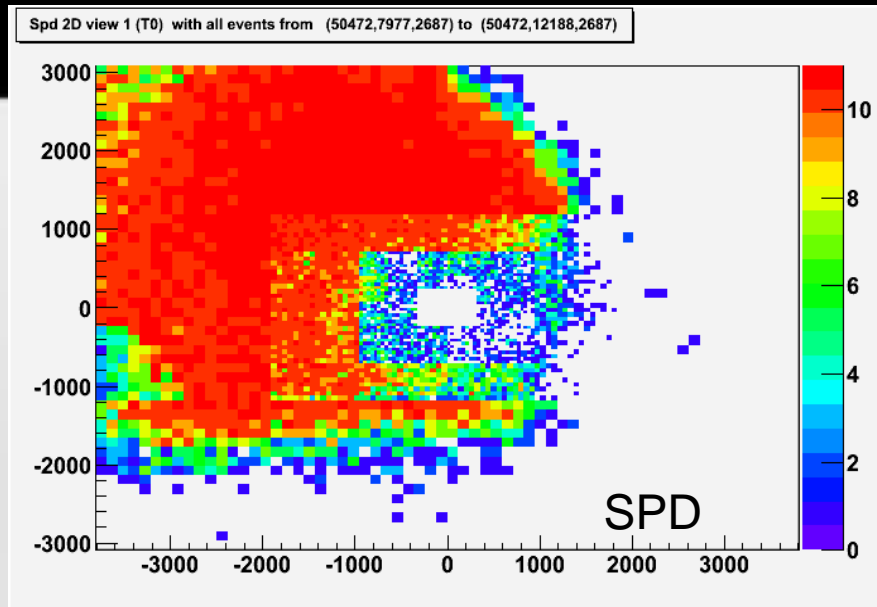


Single bunch injection

- Bunch intensity was between 2 to $5 \cdot 10^9$.
- SPD HV was set to have 1/5 the nominal gain.
- PS HV set to PHYSICS (1MIP ~ 10 ADC)
- Gain ECAL : outer 2.5 K, medium 10K inner 20k
- Gaind HCAL outer 5k, inner 20 K
- Run analyzed 50472.
- Cuts in the number of ADC counts to avoid represent noise. PS > 60, ECAL > 60, HCAL > 30.

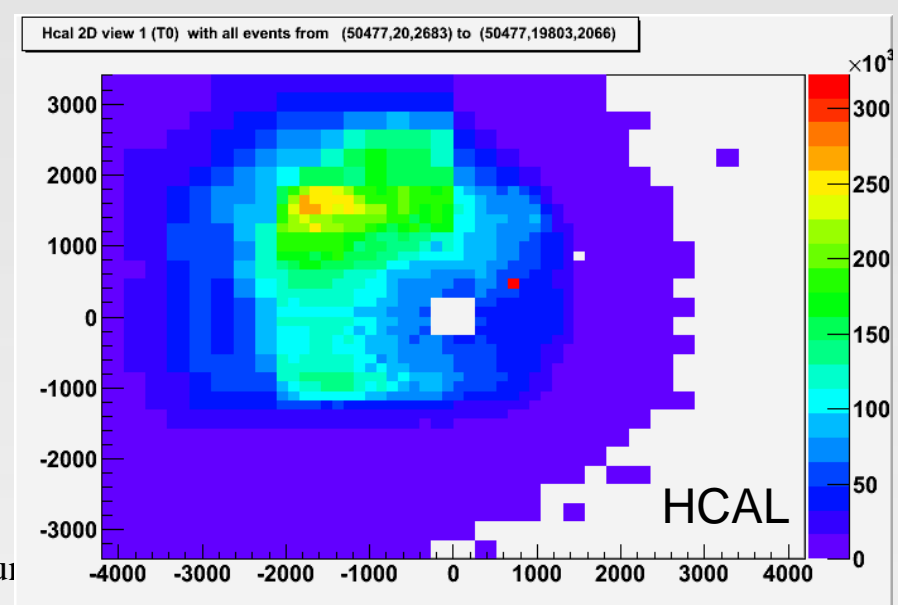
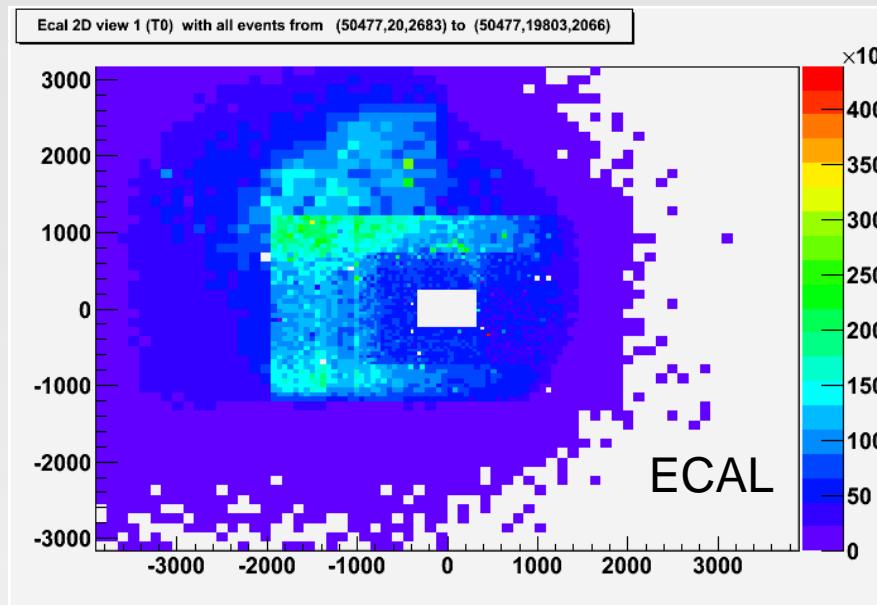
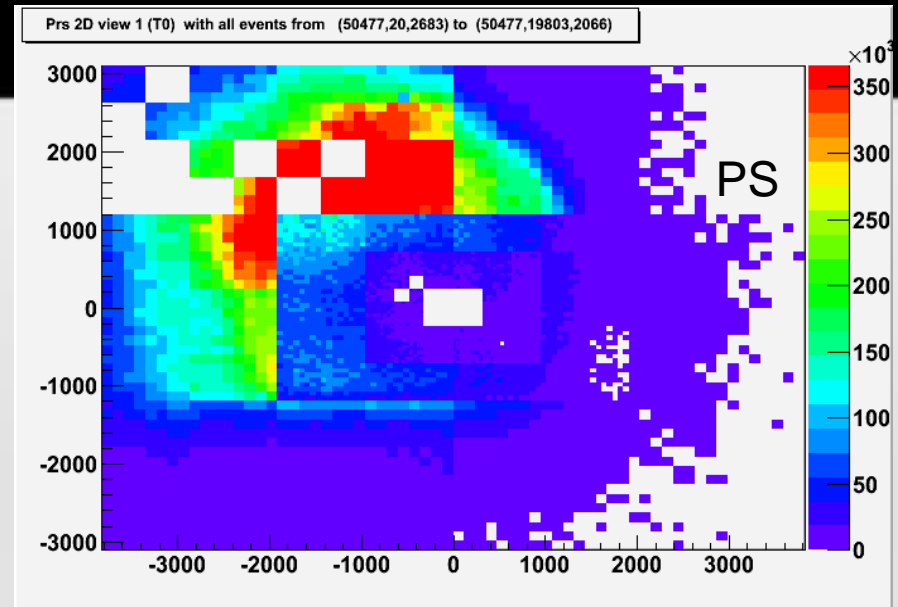
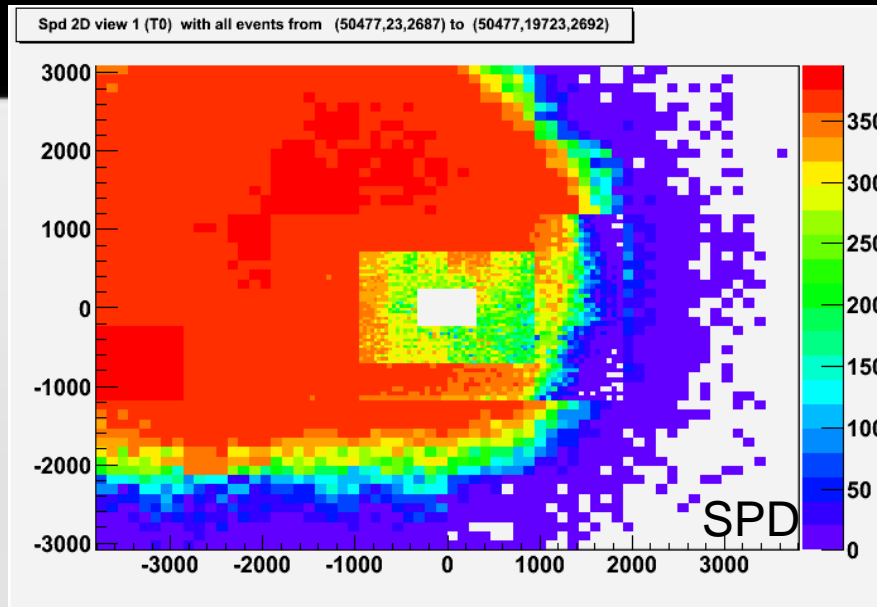
Single bunch injection (all events)



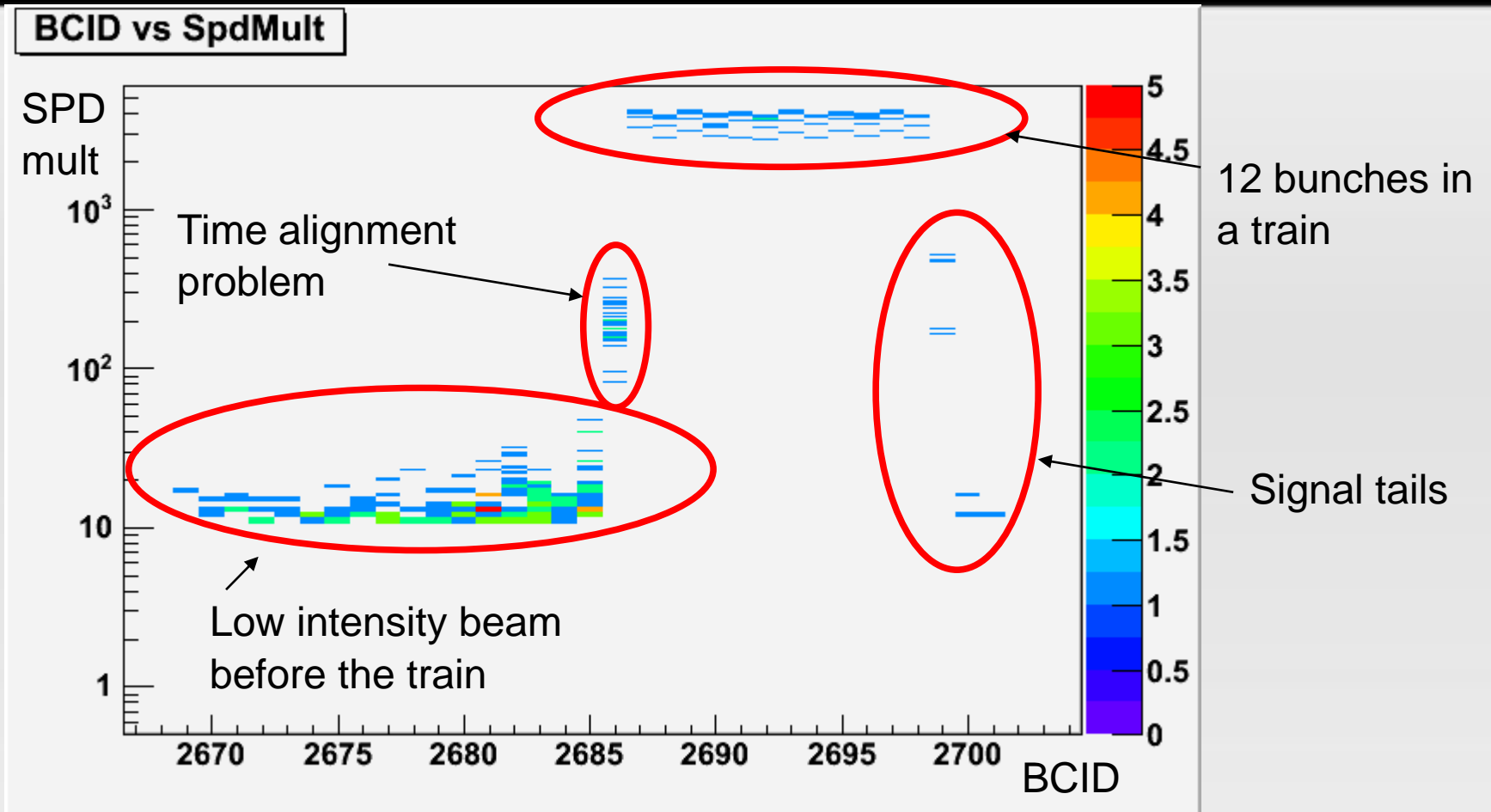
Multi bunch injection

- Trains of 12 bunches with an intensity of $1.2 \cdot 10^{10}$ protons per bunch.
- Same HV configuration for calorimeter as for single bunch injection.
- Run analyzed 50477.
- Same cuts in the ADC counts as before.

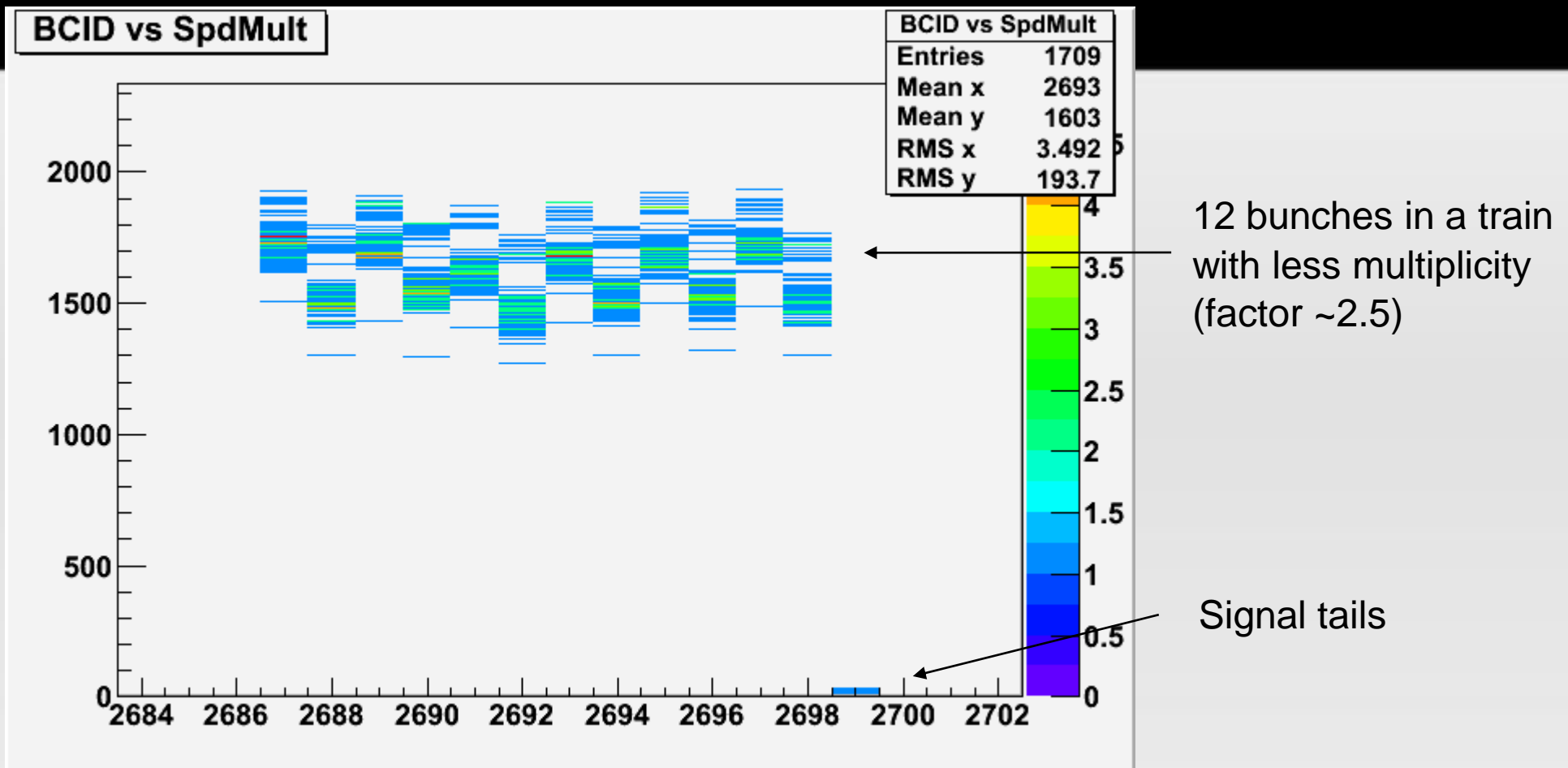
Multi bunch injection (all events)



SPD multiplicity vs BCID (1/5 nominal gain)



SPD multiplicity vs BCID (1/25 nominal gain)



TFC clock shifted by +7ns → nothing seen in BCID = 2686
Due to the reduced gain → the low intensity bunches are not seen.