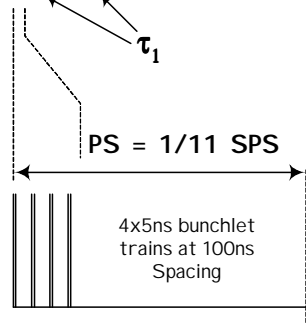
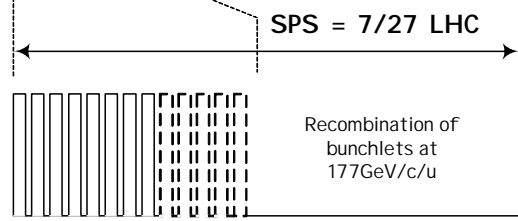
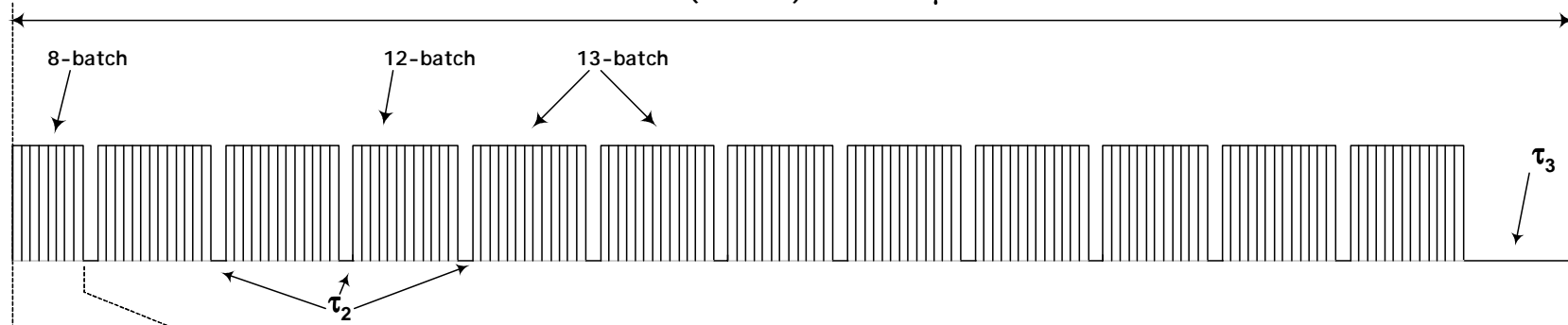


Nominal Ion Bunch Pattern in the LHC

LHC (1-RING) = 88.924 μ s



Bunch Train Pattern

8 13 13 12 13 13 12 13 13 12 13 13

Filling Scheme (100ns Bunch Spacing)

$$891 = (8 \times [4b + 1.25e] + 7.75e) + \{2 \times (13 \times [4b + 1.25e] + 7.75e)\} + 3 \times [(12 \times [4b + 1.25e] + 7.75e) + \{2 \times (13 \times [4b + 1.25e] + 7.75e)\}] + 21e$$

Beam Gaps

$\tau_1 = 1.25$ missing bunches (SPS Injection Kicker Rise Time = 225ns).
 $\tau_2 = 9$ missing bunches (LHC Injection Kicker Rise time = 1.0 μ s).
 $\tau_3 = 30$ missing bunches (LHC Beam Dump Kicker Rise Time = 3.1 μ s).