HL-LHC v1.6. E = 7.0 TeV. $N_b \simeq 2.2 \times 10^{11}$ ppb,

 $L_{1/5} = 2.44 \times 10^{34} \text{cm}^{-2} \text{s}^{-1}, L_2 = 6.71 \times 10^{30} \text{cm}^{-2} \text{s}^{-1}, L_8 = 1.97 \times 10^{33} \text{cm}^{-2} \text{s}^{-1}$ $\beta_{v, 1}^* = 1.8 \text{ m}, \beta_{x, 1}^* = 0.9 \text{ m}, \text{ polarity IP}_{2/8} = 1/1$

 $Φ/2_{1(H)} = 250$ μrad, $Φ/2_{5(V)} = 250$ μrad, $Φ/2_{2,V} = -170$ μrad, $Φ/2_{8,V} = 170$ μrad $σ_z = 7.61$ cm, $ε_n = 2.3$ μm, Q' = 15, $I_{MO} = -300$ A, $C^- = 0.001$

25ns_2760b_2748_2492_2574_288bpi_13inj_800ns_bs200ns.json. Bunch 150. 65.3026.3026.3006.31165.31365.31265.31265.3106.35165.35 60.323 - 4.2 4.2 4.1 4.4 4.4 54.5 /ertical tune Q_v 60.321 -60.319 -60.317 - 4.0 4.3 4.2 4.2 4.4 4.1 4.3 - 5.0 60.315 -- 4.5 60.313 - ≤4.0 60.311 - 4.0 54 60.309 -

Horizontal tune Q_x