HL-LHC v1.6. E = 7.0 TeV. CC = 0.0 μ rad. N_b $\simeq 2.2 \times 10^{11}$ ppb, $L_{1/5} = 0 \text{cm}^{-2} \text{s}^{-1}, L_2 = 0 \text{cm}^{-2} \text{s}^{-1}, L_8 = 0 \text{cm}^{-2} \text{s}^{-1}$ $PU_{1/5} = 0$, $\beta_{v, 1}^* = 0.9$ m, $\beta_{x, 1}^* = 1.8$ m, polarity $IP_{2/8} = 1/1$ $\Phi/2_{1(H)} = 250$ μrad, $\Phi/2_{5(V)} = 250$ μrad, $\Phi/2_{2.V} = -170$ μrad, $\Phi/2_{8.V} = 170$ μrad $\sigma_z = 7.61 \text{ cm}, \ \varepsilon_n = 2.3 \ \mu\text{m}, \ Q' = 15, \ I_{MO} = 150 \ A, \ C^- = 0.001$ 25ns_2760b_2748_2492_2574_288bpi_13inj_800ns_bs200ns.json. Bunch 150. 2/600_4140_472_22 ___ 62.305 62.307 62.3162.3162.315 62.317 62.319 62.321 62.3 65.305 62.307 62.309 62.311 62.315 62.317 62.319 62.321 62.31 60.329 -8.0 - 7.5 ≥8.0 ≥8.0 ≥8.0 ≥8.0 ≥8.0 ≥8.0 ≥8.0 ≥8.0 - 5.0 $60.315 - 28.0 \ge 8.0 \ge 8.0 \ge 8.0 \ge 8.0 \ge 8.0 \ge 8.0$ - 4.5 $60.313 - \ge 8.0 \ge 8.0 \ge 8.0 \ge 8.0 \ge 8.0$ 60.311 - ≥8.0 ≥8.0 ≥8.0 60.309 -Horizontal tune Q_x

rertical tune Q_v