HL-LHC v1.6. E = 7.0 TeV. $N_b \simeq 2.2 \times 10^{11}$ ppb, $L_{1/5} = 0 \text{cm}^{-2} \text{s}^{-1}, L_2 = 6.28 \times 10^{30} \text{cm}^{-2} \text{s}^{-1}, L_8 = 1.96 \times 10^{33} \text{cm}^{-2} \text{s}^{-1}$ $\beta_{v,1}^* = 1.8 \text{ m}, \beta_{v,1}^* = 0.9 \text{ m}, \text{ polarity IP}_{2/8} = 1/1$ $\Phi/2_{1(H)} = 250 \,\mu\text{rad}, \,\Phi/2_{5(V)} = 250 \,\mu\text{rad}, \,\Phi/2_{2,V} = -170 \,\mu\text{rad}, \,\Phi/2_{8,V} = 170 \,\mu\text{rad}$ $\sigma_z = 7.61 \text{ cm}, \ \varepsilon_n = 2.3 \ \mu\text{m}, \ Q' = 15, \ I_{MO} = -300 \text{ A}, \ C^- = 0.001$ 25ns_2760b_2748_2492_2574_288bpi_13inj_800ns_bs200ns.json. Bunch 150. 6305 6305 630 631 6313 6315 6315 6316 351 6351 60.329 -8.0 60.325 - 4.6 \ 4.8 4.5 - 7.5 60.323 - 47 47 60.321 - 49 4.7 4.8 60.319 - 51 60.317 -- 5.0 60.315 - 48 49 - 4.5 60.313 - 4 60.311 -60.309 -

Horizontal tune Q_x

/ertical tune Q_v