Studies Priorities for PP Run

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Polarized Protons Working Points

Yellow: $(Q_x, Q_y) = .695, .685$ (as in Run-6)

Blue: $(Q_x, Q_y) = .96, .95$ (at store, near-integer working point)

Near-integer working point will be operationally challenging

Orbit and β-beat will be more sensitive at near-integer tunes, and will in fact be strongly tune-dependent

$\rightarrow$ Stay away from the integer during the ramp as much as possible

$\rightarrow$ Ramp tunes: $(Q_x, Q_y) = .885, .895$ (between 7/8 and 9/10)

Tune/coupling feedback/replay is a must to keep tunes under control

Persistent current drifts at injection may push tunes outside that narrow window between 7/8 and 9/10

Need feed-forward to counteract these drifts

Feed-forward has to be commissioned during d-Au run to be ready for polarized protons

β-beat becomes worse at near-integer tunes, since it scales as $1/\sin(2\pi Q)$

Optics correction (at store) is a must, both globally (harmonic correction) and locally

$\rightarrow$ Test/commission during d-Au run, at near-integer tunes (injection only)

β^*-knobs are expected to be a useful tool to optimize luminosity and/or correct β-beat at the IPs

Tested in APEX sessions a few years ago (W. Wittmer et al.), but never made operational as a "knob"

Dynamic "knobs" desirable that can be changed operationally