Parameters:
T = 758.86 MeV, p = 185.0 MeV/c, m_{dc}^2 = 1875.6 MeV, \beta = 0.7022, G = -0.142987, \gamma = 1.4046, G_{\gamma} = -0.20084, L = 183.473 m, f_c = 1.147 43 MHz, I_{beam} = 20 \mu A, v_x = 3.575, v_y optionally varied between 3.54 and 3.86

Tune the D\textsuperscript{-} ion source to the (0, 0), (-2/3, 0), (-1/3, -1), (-1, +1), (+1, +1) polarized states
Solenoid RF system setup and test
Injection into COSY, electron cooling at injection and acceleration to 1850.0 MeV/c
Set up for rebunching of the beam for Kondratenko Crossing (KC) test

---

Part I. Polarized beam studies with Coasting beam (rf solenoid off, e-cooling on) 2 shifts

Part I.1. Polarization (vector and tensor) vs \nu_y (3.54–3.86)
(Optional, only if no beam readjustment needed after \nu_y variation?)

Part I.2. High-statistics run of EDDA to calibrate deuteron effective analyzing powers

Part II. RF-Solenoid resonance Search and Mapping with Coasting beam (e-cooling on, \nu_y = 3.6) 3 shifts

Part II.1. Search for \nu_f = \nu_f(1 - |\nu_{\gamma}|) [-0.9170 MHz] resonance’s spin flip using \Delta \nu = \pm 0.1 kHz
Part II.2. Map \nu_f(1 - |\nu_{\gamma}|) resonance using fixed \nu_f

Part III. Resonance strength calibration with Coasting beam (e-cooling on, \nu_y = 3.6) 2 shifts

Part III.1. Polarization (vector and tensor) vs \Delta t for 2 diff. \nu_{rf} (\nu_{max}, \nu_{max}/2) with \nu_f = 400 Hz

Part IV. Test of KC with Coasting beam (e-cooling on, \nu_y = 3.6, ~10 points / each curve) (vector and tensor) 15 shifts

Part IV.1. KC by varying shape’s center frequency \nu_{KC}
[\nu = 1 \cdot 10^{-5}, \Delta \nu_{fast} = 185 Hz, \Delta \nu_{slow} = 400 Hz, \Delta t_{slow} = 160 ms]
Part IV.2.a. For \nu = 1 \cdot 10^{-5} KC\textsuperscript{+} by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
Part IV.2.b. For \nu = 0.5 \cdot 10^{-5} KC\textsuperscript{+} by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
[f_{KC} from IV.1, \Delta \nu_{fast} = 12 ms, \Delta \nu_{slow} = 400 Hz, \Delta t_{slow} = 160 ms] \textsuperscript{#}[\Delta \nu_{fast} = 12 ms]
Part IV.3.a. For \nu = 1 \cdot 10^{-5} KC\textsuperscript{+} by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
Part IV.3.b. For \nu = 0.5 \cdot 10^{-5} KC\textsuperscript{+} by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
[f_{KC} from IV.1, \Delta \nu_{fast} from IV.2, \Delta \nu_{slow} = 400 Hz, \Delta t_{slow} = 160 ms] \textsuperscript{#}[\Delta \nu_{fast} from IV.2]
Part IV.4. KC by varying \Delta \nu_{slow} + one Fast Crossing Only
[f_{KC} from IV.1, \Delta \nu_{fast} from IV.2, \Delta \nu_{fast} from IV.3, \Delta \nu_{slow} = 160 ms]
Part IV.5. KC by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
[f_{KC} from IV.1, \Delta \nu_{fast} from IV.2, \Delta \nu_{fast} from IV.3, \Delta \nu_{slow} from IV.4]
Part IV.6. KC by varying \nu with optimal parameters (Optional?)

Part V. RF-Solenoid resonance Mapping with Bunched beam (e-cooling on, \nu_y = 3.6) (Optional) 2 shifts

Part V.1. Map \nu_f(1 - |\nu_{\gamma}|) resonance using fixed \nu_f

Part VI. Test of KC with Bunched beam (e-cooling on, \nu_y = 3.6) (Optional) 5 shifts

Part VI.1. KC by varying shape’s center frequency \nu_{KC}
Part VI.2.a. For \nu = 1 \cdot 10^{-5} KC\textsuperscript{+} by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
Part VI.2.b. For \nu = 0.5 \cdot 10^{-5} KC\textsuperscript{+} by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
Part VI.3.a. For \nu = 1 \cdot 10^{-5} KC\textsuperscript{+} by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
Part VI.3.b. For \nu = 0.5 \cdot 10^{-5} KC\textsuperscript{+} by varying \nu_f; and then Fast Crossing Only\textsuperscript{#} by varying \Delta \nu_{fast}
Part VI.4. KC by varying \nu_f; and then Fast Crossing Only\textsuperscript{#}
Part VI.5. KC by varying \Delta \nu_{slow} + one Fast Crossing Only

29 shifts (28.75 available)