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H10 FEB: Shave Beam and Extract Fraction

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Objective: First try to extract beam out of H10 by "shaving" method. Observe extracted fraction and spill duration using current transformer in U10 external instrument box.

(1) Got machine early — 1930 on 4/3 with 3.5 10^{12} ppp internal. Set up normal SEB cycle: 2.7 sec rep rate, 1.1 sec flattop starting at 628 ms, Gaussclock on flattop = 57235. Beam dumped on F20A heviMet target at 1200 ms. Extraction planned at 700 ms. Turned on E and H superperiod bumps, measured deformed equilibrium orbit and ν_H. Data do not give good fit (±.03 uncertainty in ν_H) — should be repeated. Found no power supply connected to vertical RBD so couldn't get ν_V. Hooked up spare supply but then AGS went down (klinac) from 2100 to 0200 on 4/4.

(2) During above, also timed beam kickers with 450 ns delay on E1S relative to C1S. Turned on E10 septum and set time. Set skew of −4.7 mrad on E10 and H10 magnets. THEN TRIED H10 Ejector Power Supply! Big bang. Blew ground fault protection fuse. Tried twice more.. Same result. Control room noted momentary vacuum burst in H. Thermocouple on upstream end of magnet opened. During 2100 — 0200 machine troubles, we checked magnet and power supply. No ground faults found. When machine came back on, started pulsing H10 again. After 20 minutes leak observed. Run aborted. Leak subsequently found to be water leak at downstream end.