

Extract Fraction of Beam at H10, Observe Affect on SEB

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Bagley, Bennett, Blumberg, Curtiss, Glasman, Glenn, Guthy, Keane, Raka, Schirmer, Soukas

Scheduled: 1030-1230 Actual: 1030-1300

Objective: Extract a fraction f of the debunched, internal beam prior to the SEB spill and observe possible effect on SEB spill structure or efficiency. Fractions of interest are $.02 \leq f \leq .1$

Result: Various fractions of the circulating ($\sim 3.5 \cdot 10^{12}$ ppp) beam were extracted — up to 50% judging by the decrease in the SEB — for various currents in the C15, E15 kickers. We were unable to measure directly the amount of beam extracted due to instrumentation problems. We observed approximately a 10% decrease in beam available for the G10 target + SEB spill when the E10 and H10 magnets were positioned and the E and H orbit bumps were energized, indicating the need for larger amplitude orbit deformations so that the extraction magnets can be positioned at larger radii. The first test of powering the H-superperiod backleg windings with two power supplies was made — one supply powering H2 + H3 and the other H16 + H17. The supplies worked well so we should have the capability of up to 1400 Amps in the backleg windings in the future rather than the 1000 A present limit.

The horizontal half-size of the debunched, high intensity internal beam appeared to be about 5mm larger than the bunched, $1.5 \cdot 10^{12}$, ppp beam, we previously worked with.

There was no obvious deterioration of SEB spill structure. All G10, B and C target users took data during this period; in particular, the Kyrcia group was asked to look for expected modulation at the 370 KHz rotation frequency. No effect in their "accidentals" was reported.