

ISR RUNNING-IN

Runs 87 - 88, 19 - 20.7.1971

INSTABILITIES IN RING I

(follow-up of report of July 14th, 1971)

During Runs 83 - 85 instabilities of the beam position in Ring 1 were observed, but not explained. We continued the investigation during Runs 87 and 88. During these runs Ring 1 was back to normal conditions and we measured successive beam positions on PU's 533 and 665. For Run 88 we had 4 bunches and 22 GeV/c and for Run 87, 4 bunches and 15 GeV/c.

We then produced about  $\frac{1}{3}$  of beam loss with the scraper. It only produced signal reduction but no instabilities.

Therefore it seems that the trouble comes from devices which have a direct influence on the radial orbit, like power supplies of magnets or kickers.

CERN LIBRARIES, GENEVA



CM-P00072587

J. Borer

Distribution

ISR Group Leaders  
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# RING 1 4 bunches, 22 GeV/c

1 <sup>R</sup> 2 3 <sup>V</sup> 4 Radial Vertical

-1338	-2458	-44839	-3247	-3247	1.0
-1354	-2482	-44857	-3273	-3273	1.0
-1362	-2522	-44898	-3311	-3311	1.0
-1369	-2540	-44905	-3313	-3313	1.0
-1371	-2543	-44908	-3315	-3315	1.0
-1382	-2547	-44907	-3311	-3311	1.0
-1385	-2550	-44906	-3310	-3310	1.0

mm

without beam loss

PU 665

-1375	-2534	-44845	-3275	-3275	1.0
-1381	-2532	-44854	-3273	-3273	1.0
-1382	-2537	-44857	-3285	-3285	1.0
-1383	-2537	-44851	-3272	-3272	1.0
-1385	-2535	-44859	-3280	-3280	1.0
-1388	-2539	-44847	-3278	-3278	1.0
-1389	-2535	-44859	-3278	-3278	1.0
-1390	-2534	-44858	-3278	-3278	1.0
-1391	-2535	-44859	-3278	-3278	1.0
-1392	-2534	-44858	-3278	-3278	1.0
-1393	-2534	-44858	-3278	-3278	1.0
-1394	-2534	-44858	-3278	-3278	1.0
-1395	-2534	-44858	-3278	-3278	1.0
-1396	-2534	-44858	-3278	-3278	1.0
-1397	-2534	-44858	-3278	-3278	1.0
-1398	-2534	-44858	-3278	-3278	1.0
-1399	-2534	-44858	-3278	-3278	1.0
-1400	-2534	-44858	-3278	-3278	1.0

with about 1/3 beam loss

-1158	-2533	-44839	-3247	-3247	1.0
-1154	-2533	-44839	-3247	-3247	1.0
-1154	-2536	-44836	-3274	-3274	1.0
-1149	-2536	-44833	-3275	-3275	1.0
-1136	-2536	-44833	-3271	-3271	1.0
-1119	-2536	-4476	-3278	-3278	1.0
-1122	-2533	-4471	-3259	-3259	1.0
-1122	-2533	-4496	-3223	-3223	1.0
-1112	-2497	-4483	-3204	-3204	1.0
-1153	-2533	-4483	-3271	-3271	1.0
-1139	-2549	-4483	-3272	-3272	1.0
-1154	-2527	-4483	-3275	-3275	1.0
-1140	-2553	-4484	-3276	-3276	1.0
-1174	-2546	-4487	-3297	-3297	1.0
-1142	-2574	-4484	-3276	-3276	1.0
-1178	-2565	-4485	-3273	-3273	1.0
-1155	-2585	-4486	-3276	-3276	1.0
-1155	-2571	-4481	-3249	-3249	1.0
-1168	-2610	-4485	-3274	-3274	1.0
-1162	-2582	-4483	-3275	-3275	1.0

without

PU 533

-930	-1972	-4112	-3209	-3209	1.0
-924	-1991	-4131	-3229	-3229	1.0
-937	-1981	-4132	-3274	-3274	1.0
-930	-1987	-4112	-3252	-3252	1.0
-948	-2007	-4134	-3275	-3275	1.0
-943	-1990	-4136	-3247	-3247	1.0
-929	-1970	-4112	-3209	-3209	1.0
-934	-1963	-4116	-3223	-3223	1.0
-937	-1986	-4131	-3257	-3257	1.0

with