ISR-MA/JPG/HL/rh 12th December 1972

ISR PERFORMANCE REPORT

Run 265 - 11 December 1972

Rings 1 and 2 - 22 GeV/c - 4/20 bunches

Working lines 5C22

Conclusion

In both rings, working line 5C22 is ready to test the behaviour of stacks for physics runs.

With a density of 6 A per 1 % momentum spread, there are no signs of coherent instabilities up to 13 A.

Summary

The working line 5C22 has been established in both rings as shown in Figure 1. All 5th order resonances $mQ_H + nQ_V = 43$ are crossed. For the stacking regions between +50 mm and -15 mm the Q-spreads are $3.9 > Q'_H > 1.5$ and $3.6 > Q'_V > 1.5$.

A stack was built in Ring 1 with the suppressed bucket scheme, $\Gamma = 0.5$, $V_{fin} = 600$ V, $\Delta f = 6.6$ Hz and shaving from ~70 mA to ~40 mA. Between +47 mm and 0 mm 13.18 A were stacked with 386 pulses. No coherent instability was seen but a pressure rise in S11 and S70 caused a loss of 2 A within 1.4 minutes associated with moderated continuous (Q_H - 8) filter output. The stack was not lost when kicking it horizontally and vertically with the Q-meter kicker.

At 12 A, stacking was interrupted and we measured a loss rate of 40 ppm/min. and a background rate of $0.65 \cdot 10^3$ $(sA)^{-1}$.

J.P. Gourber

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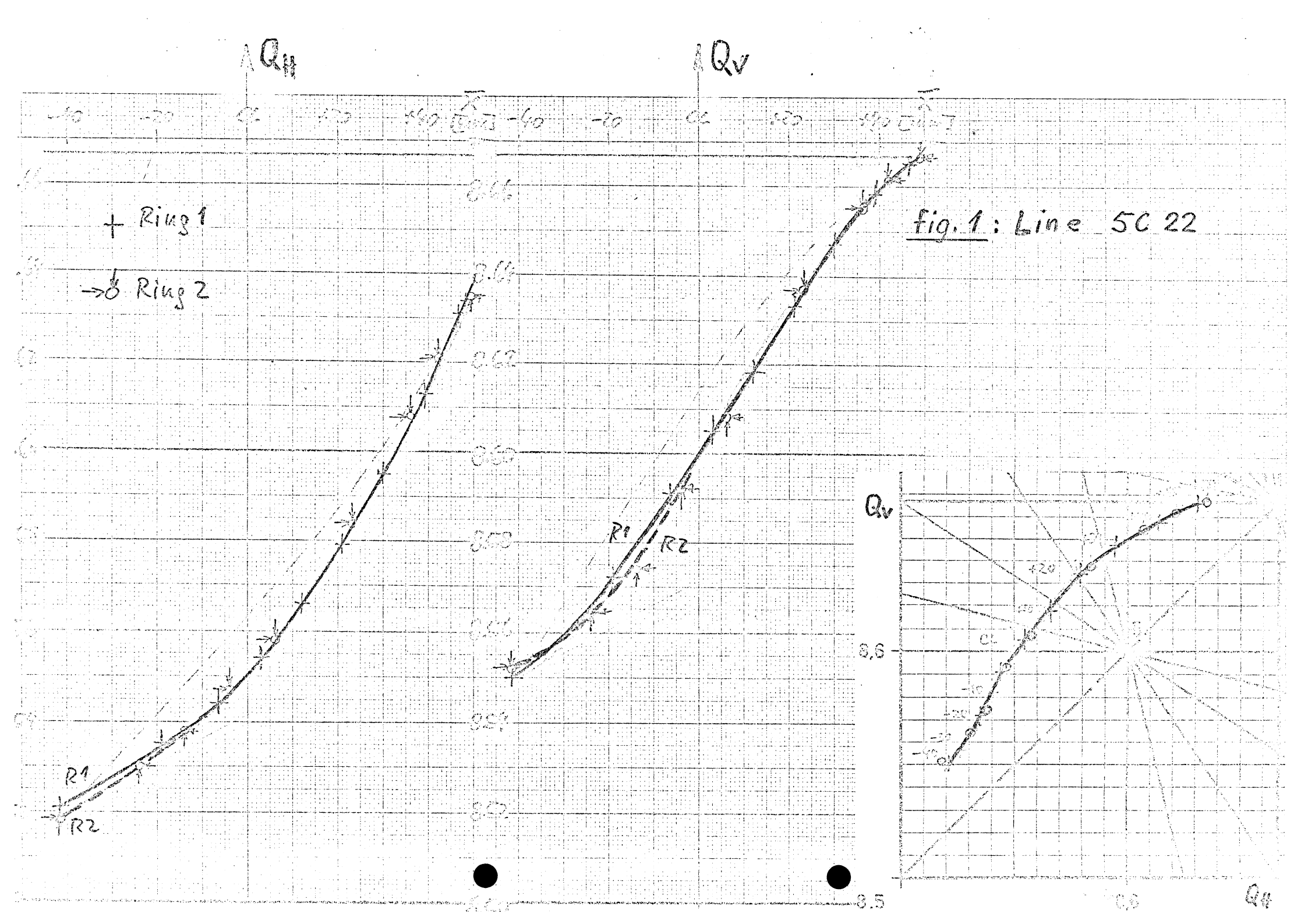

fig. 1 : Line 5C 22