There are two numerical errors in PS/Int. AR/60-9.

One is in Eqn. 1 where there is an error of 2π (present in MURA 441, from which the formula was taken, but not in CERN Proceedings 1959, page 239).

Instead of π^2 in the numerator of (1) we should have $\pi/2$, i.e. N should be 2π times less.

Consequently the 2nd and 4th columns of the Table on page 2 should read

Maximum N	Maximum injected current (mA)	Build-up time (μs)
3.6×10^8	0.73	20
1.5×10^8	0.25	9
1.5×10^9	2.5	860
3.8×10^8	0.64	26

The build-up time T is reduced by a factor $\sqrt{2\pi}$, i.e. a factor 2π should be inserted in the denominator inside the bracket in Equation (2), page 3.

The times given in the Table should accordingly be changed as shown above.

Consequential corrections to be made in the text:

Page 3: Second last sentence in Section 1, replace 20 μsec by 9 μsec.

Last sentence in same section, replace 5 mA by 730 μA and 2 mA by 250 μA

The second error is that in equations (3) and (4) on page 5 the ΔQ has been put in the denominator when it should be in the numerator, i.e. eqn. (3) should read

$$N < \frac{2\pi a^2 \beta^2 \gamma^3 Q \ \Delta Q}{R \ r_e} \tag{3}$$

Consequently, in the numerical examples below 0.2 should be shifted from denominator to numerator and N thus reduced by a factor of 25, giving for

PS/1555

Ring 1

$$N < 1.84 \times 10^8 \qquad (I_{inj} < 368 \; \mu A),$$

and for Ring 2:

$$N < 5.96 \times 10^8 \qquad (I_{inj} < 1.2 \; mA)$$

The figures which should be compared with each other are:

N_L = Longitudinal limit with ΔE = 1 keV

with

N_T = Transverse limit with b = 1 ,

and

N_L' = Longitudinal limit at injection with ΔE = 10 eV

with

N_T' = Transverse limit a quarter synchrotron oscillation later

with b = 100

The corrected figures are:

	N_L	N_T	N_L'	N_T'
Ring 1	3.6×10^8	1.84×10^{10}	3.6×10^4	1.84×10^8
Ring 2	1.5×10^8	5.96×10^{10}	1.5×10^4	5.96×10^8

In addition to these numerical corrections a horizontal line should be drawn through the middle of Fig. 1b and a diagonal line from top left to bottom right through Fig. 3a.

With apologies

M.J. Pentz.

Distribution: (open)

Accelerator Research Group
Parameter Committee Members
P.S. Library.

/kt

PS/1555