(1)

NAL Separate Function 12 BeV Booster

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$R = 100\ m$

$N_S = 6$

$N_c = 36 \quad (N_c/N_S = 6)$

$T = 10\ BeV \quad (Bf = 363.516\ kG\ m)$

$k_c = 8.72665\ m$

$B_{max} = 7.938\ kG$

$\rho = 45.84\ m$

$L_{mag} = 3.0\ m$

$N_{mag} = 96 \quad (N_{mag} L_{mag} = 288\ m = 2\pi\rho)$

$L_Q = 0.5\ m$

$B'_Q = 112.02\ kG/m$

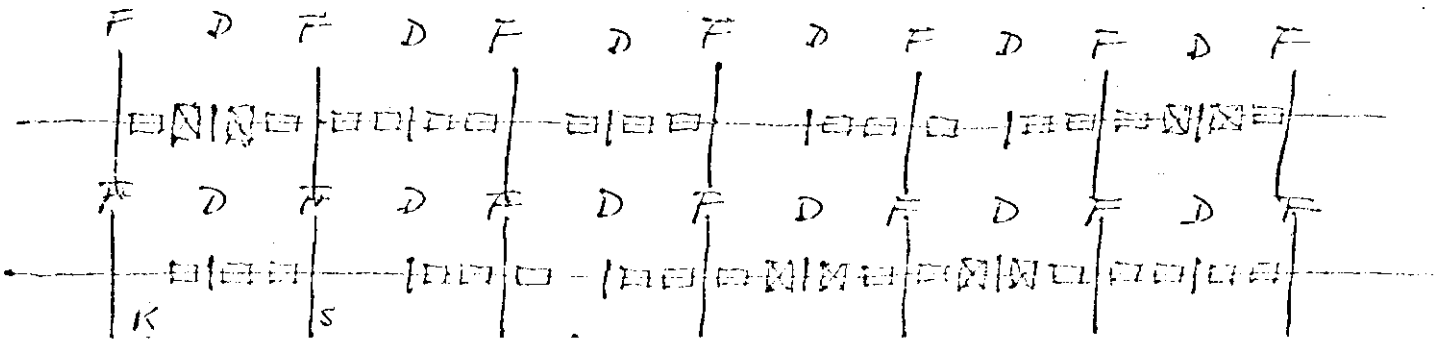
$\nu_x = 8.25$

$\nu_y = 8.27$

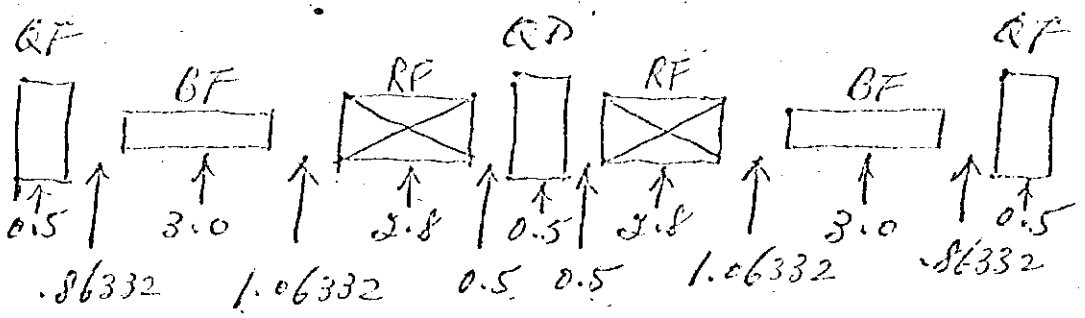
$X_f = 3.048\ m$

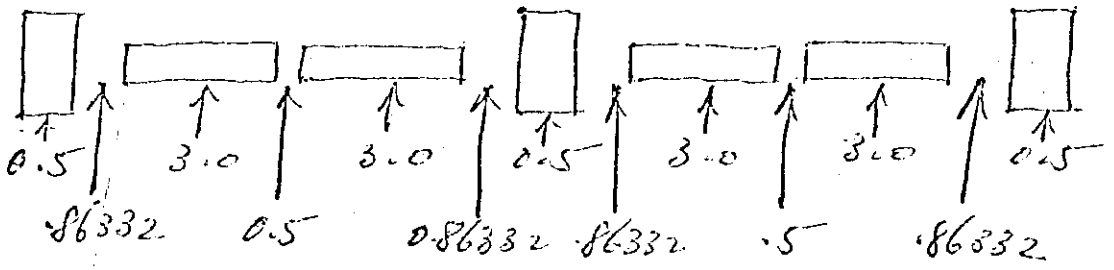
$\gamma_{tr} = 7.746$

$$\begin{cases} \beta_x(QF) = \beta_y(QD) = 27.0\ m \\ \beta_x(QD) = \beta_y(QF) = 6.16\ m \\ \beta_x(BF) = \beta_y(BD) = 24.8\ m \\ \beta_x(BD) = \beta_y(BF) = 13.2\ m, \end{cases}$$



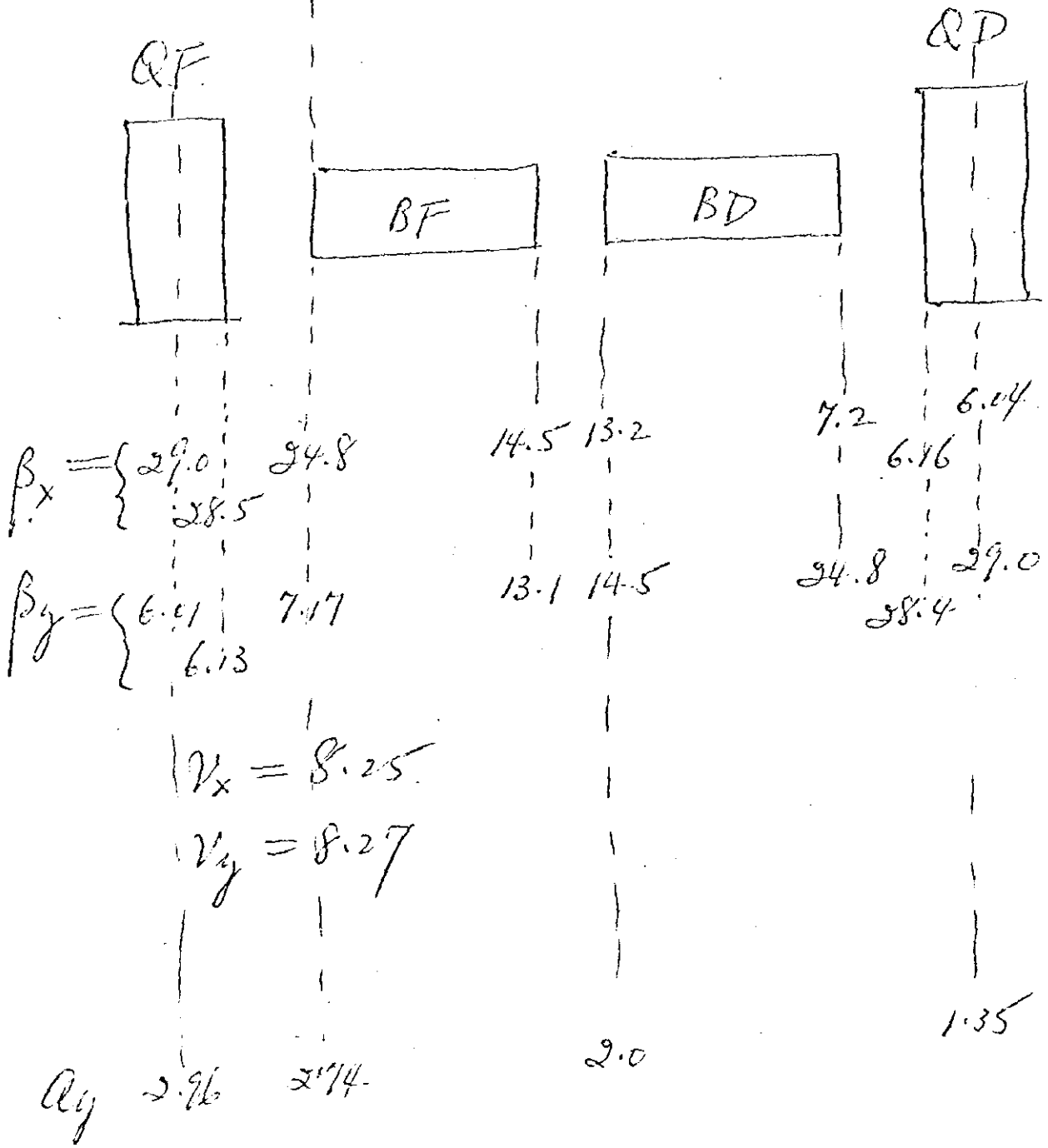
(2)


QF
BF
RF
QD
RF
BF
QF
0.5
3.0
2.8
0.5
2.8
3.0
0.5
.86332
1.06332
0.5
0.5
1.06332
.86332


0.5
3.0
3.0
0.5
3.0
3.0
0.5
.86332
0.5
0.86332
.86332
.5
.86332

α_x 5.33(4.33+1) 5(4+1) — 3.91(2.91+1) — 2.97(1.97+1)

α_y 1.35 2 — 2.75 2.77



FODO Separate Function 10 BeV Booster

Radius = 100 m.
No. of Superperiod = 6
No. of Cells = 36
No. of cells per superperiod = 6
Length of cell = 8.727 m

Magnet bending Radius = 45.84 m
Max. magnetic field = 7.95 Kgauss
Length of bending magnet = 3.0 m
No. of bending magnet = 96
Aperture of F type bending magnet = 2" x 5"
Aperture of D type bending magnet = 3" x 4"
Outer dimensions of bending magnets = 12" x 34"

No. of quadrupoles = 72
Length of quadrupole = 0.5 m
Max. field gradient in quadrupole = 112 Kgauss/in
aperture of F type quadrupole = 1.5" x 5.5"
aperture of D type quadrupole = 3" x 3"

(5)

36 Tons $M_2 = 4,320$ in-lb

$I = 1.33$ in^4

(Top)

$1\frac{1}{2} \times 2''$

12"

6"

24 Tons $M_2 = 3,360$ in-lb

$I = 1.08$ in^4

(Bot)

$1'' \times 2\frac{1}{2}''$

12"

6"

EACH TURN

(1/2 TRANSMITTED)