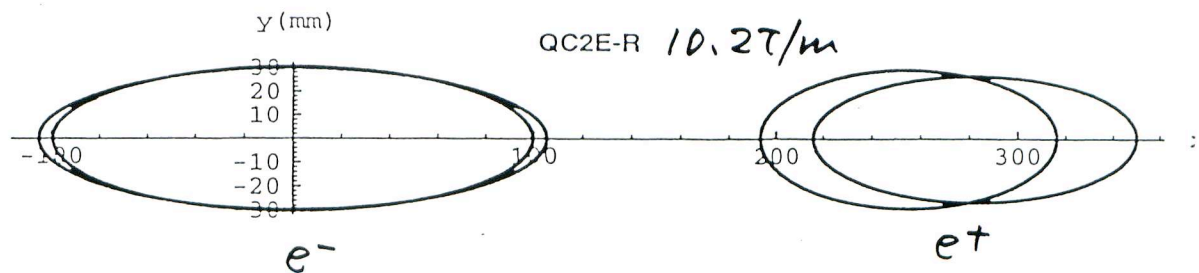
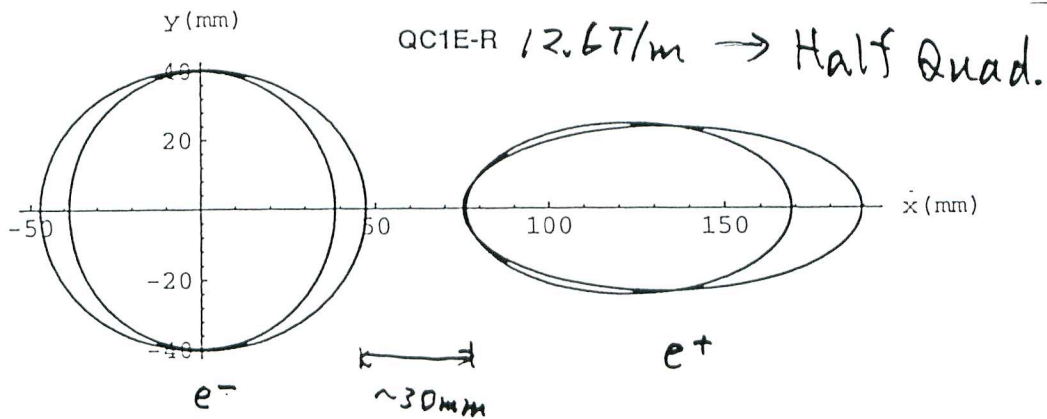
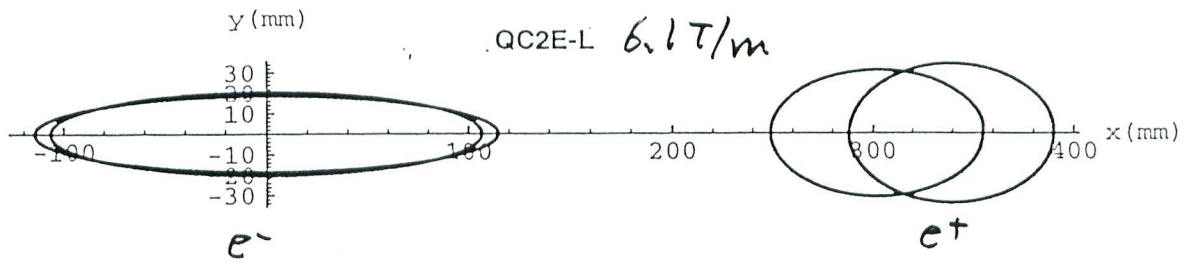
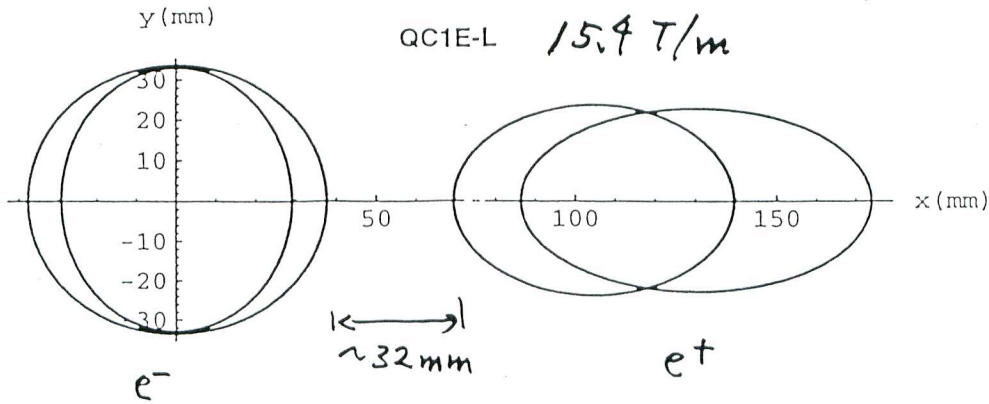


HER Quads

$$\epsilon_x = 1.4 \times 10^{-5} \text{ m}$$

$$\epsilon_y = 1.4 \times 10^{-6} \text{ m}$$



Assume: Bending angle by QC1E-R → 12 mrad.

For e^- beam

		QC1E-L	QC2E-L	QC1E-R	QC2E-R
Entrance aperture(e^-)	horizontal(mm)	37.66	114.7	38.47	99.5
	vertical(mm)	33.62	18.5	39.85	30.4
Exit aperture(e^-)	horizontal(mm)	29.04	106.7	47.27	105.2
	vertical(mm)	32.99	20.4	40.43	29.8
Entrance aperture(e^+)	horizontal(mm)	43.85	50.9	48.1	61.5
	vertical(mm)	22.8	33.9	24.5	29.2
Exit aperture(e^+)	horizontal(mm)	34.96	53.1	56.95	66.2
	vertical(mm)	23.77	30.8	23.51	26.7
Beam separation	entrance(mm)	130.14	339.0	112.2	254.8
Beam separation	exit(mm)	100.42	302.0	132.2	283.0
Max. field gradient	(T/m)	15.4	6.1	12.6	10.2
Pole length	(m)	0.6	1.0	0.6	0.6

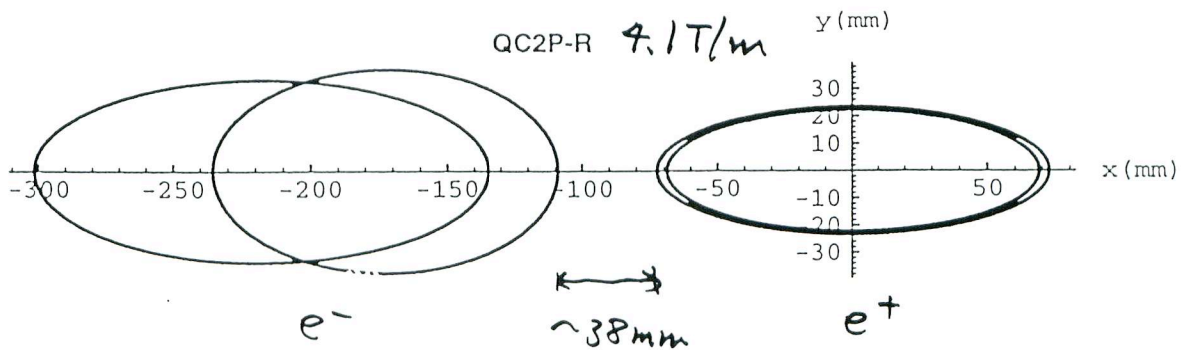
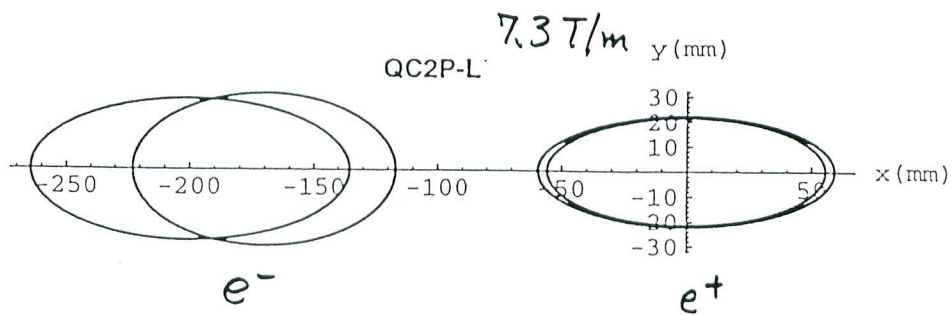
Table 7.11: Specification of IR quads for HER.

For e^+ beam

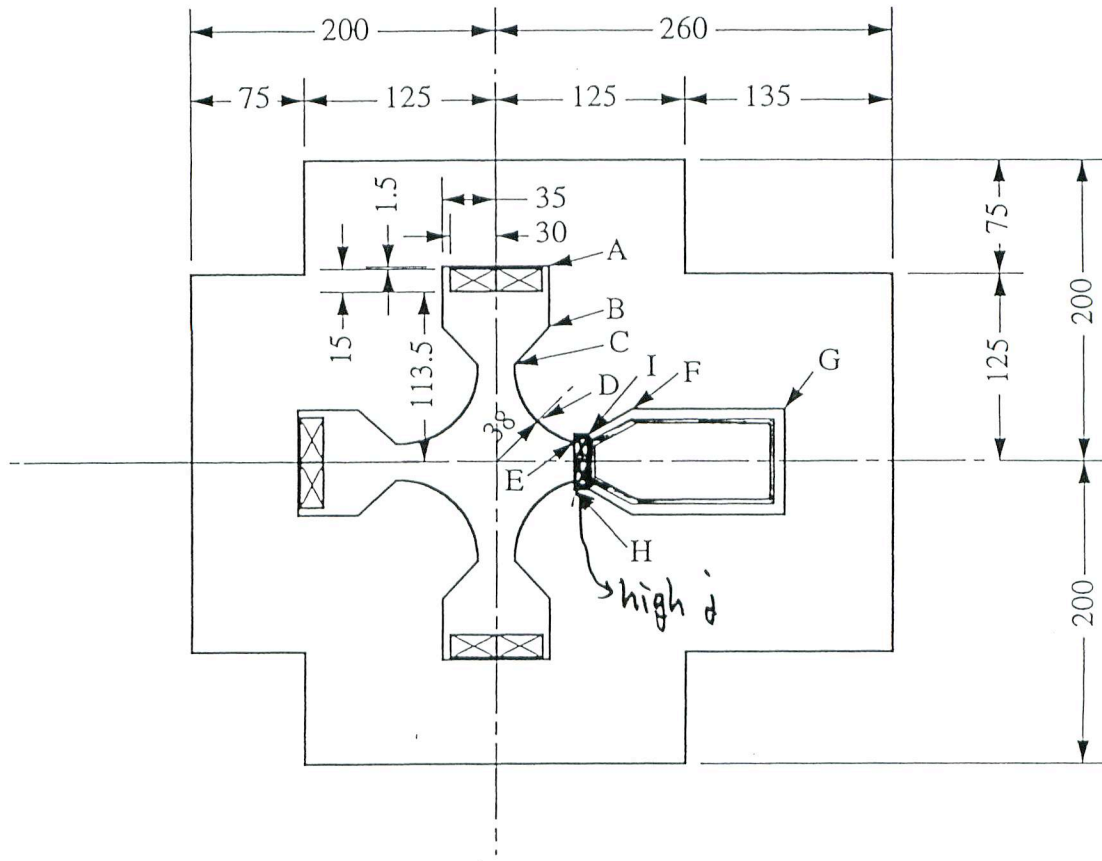
		QC2P-L	QC2P-R
Entrance aperture(e^-)	horizontal(mm)	52.99	63.3
	vertical(mm)	30.69	37.4
Exit aperture(e^-)	horizontal(mm)	64.51	83.4
	vertical(mm)	28.48	33.5
Entrance aperture(e^+)	horizontal(mm)	55.7	68.8
	vertical(mm)	21.52	22.2
Exit Aperture(e^+)	horizontal(mm)	59.37	72.4
	vertical(mm)	22.19	23.4
Beam separation	entrance(mm)	170.0	172.2
Beam separation	exit(mm)	200.0	218.2
Max. field gradient	(T/m)	7.3	4.1
Pole length	(m)	0.6	1.0

Table 7.12: Specification of IR quads for LER.

LER Quads



Assume: Bending angle by QC1E-R $\rightarrow 12 mrad$

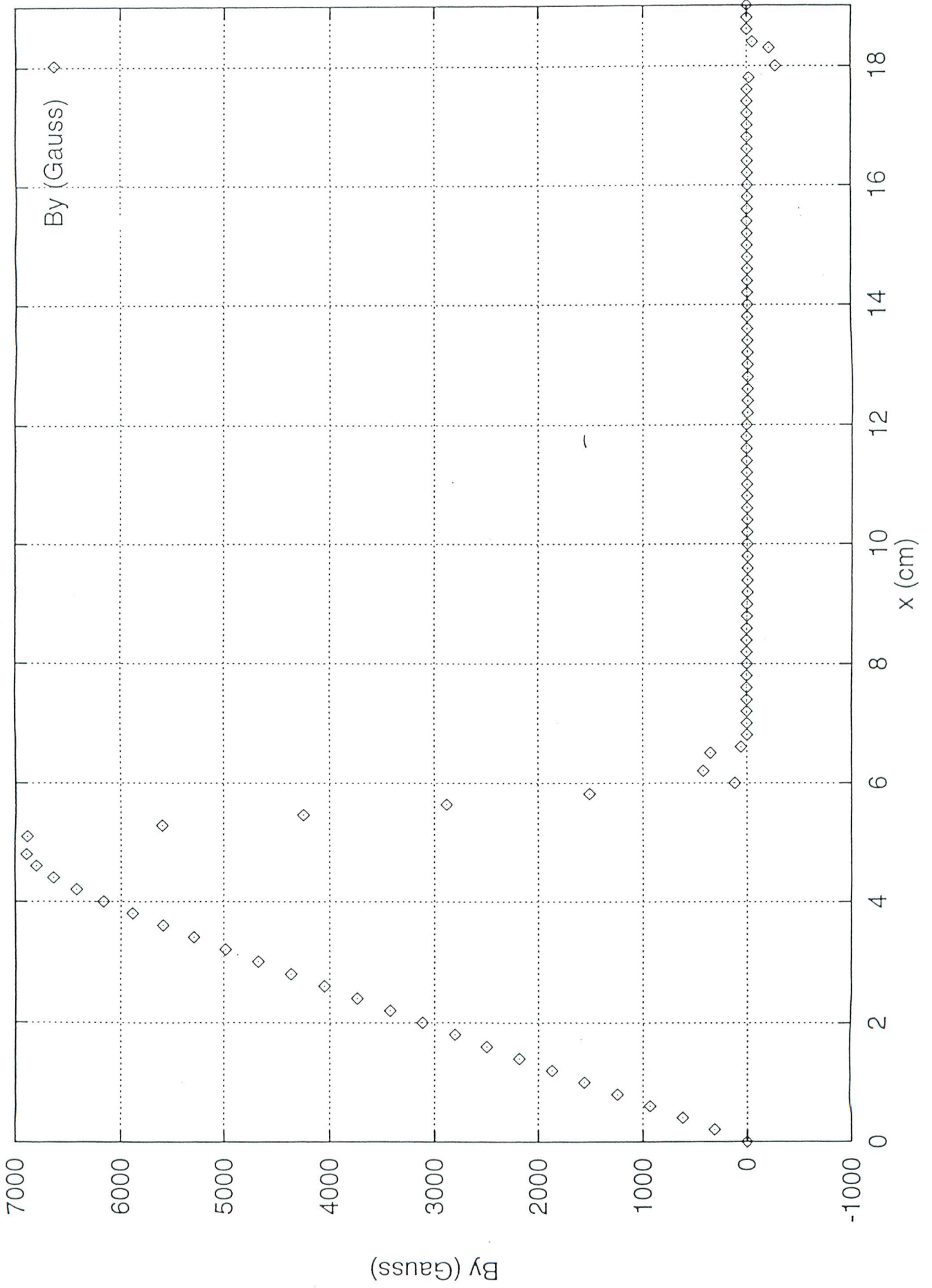


- A (35, 130)
- B (35, 90)
- C (12, 65)
- D (26.9, 26.9) ; $xy = 722$
- E (51, 13)
- F (90, 35)
- G (190, 35)
- H (51, -18)
- I (60, 18)

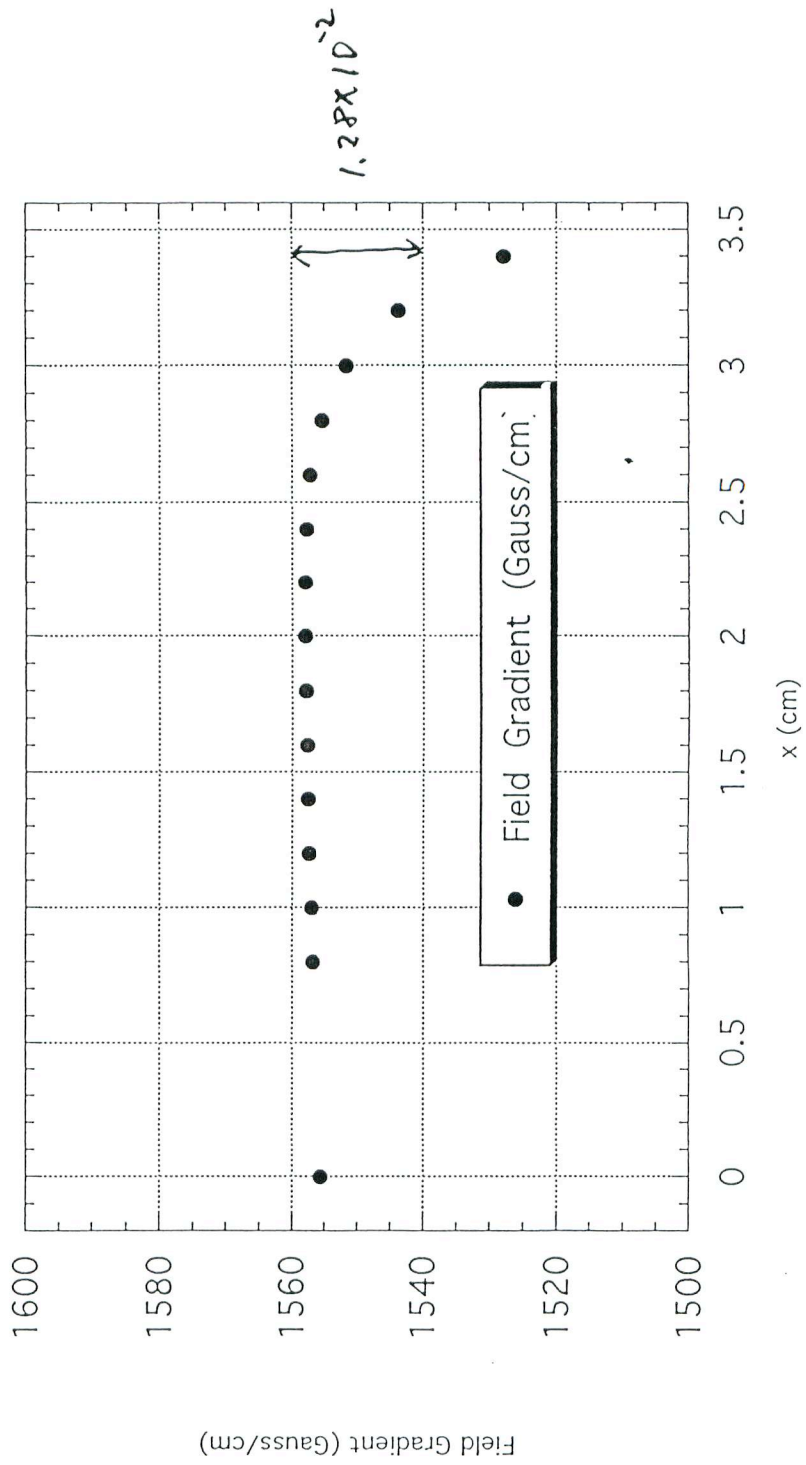
$L = 0.6m$

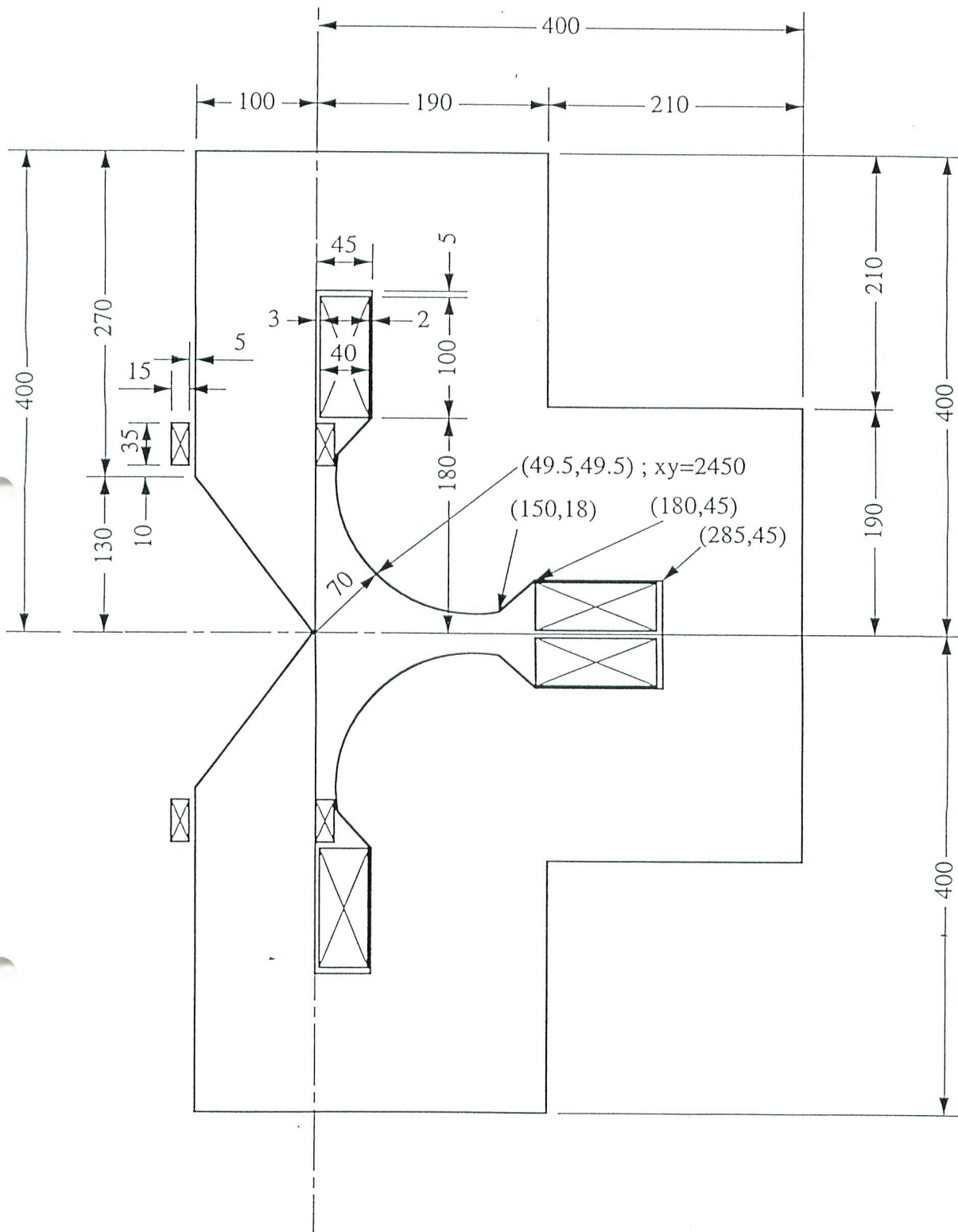
QC1E-L

QC1E-I/5-1



QC1E-L

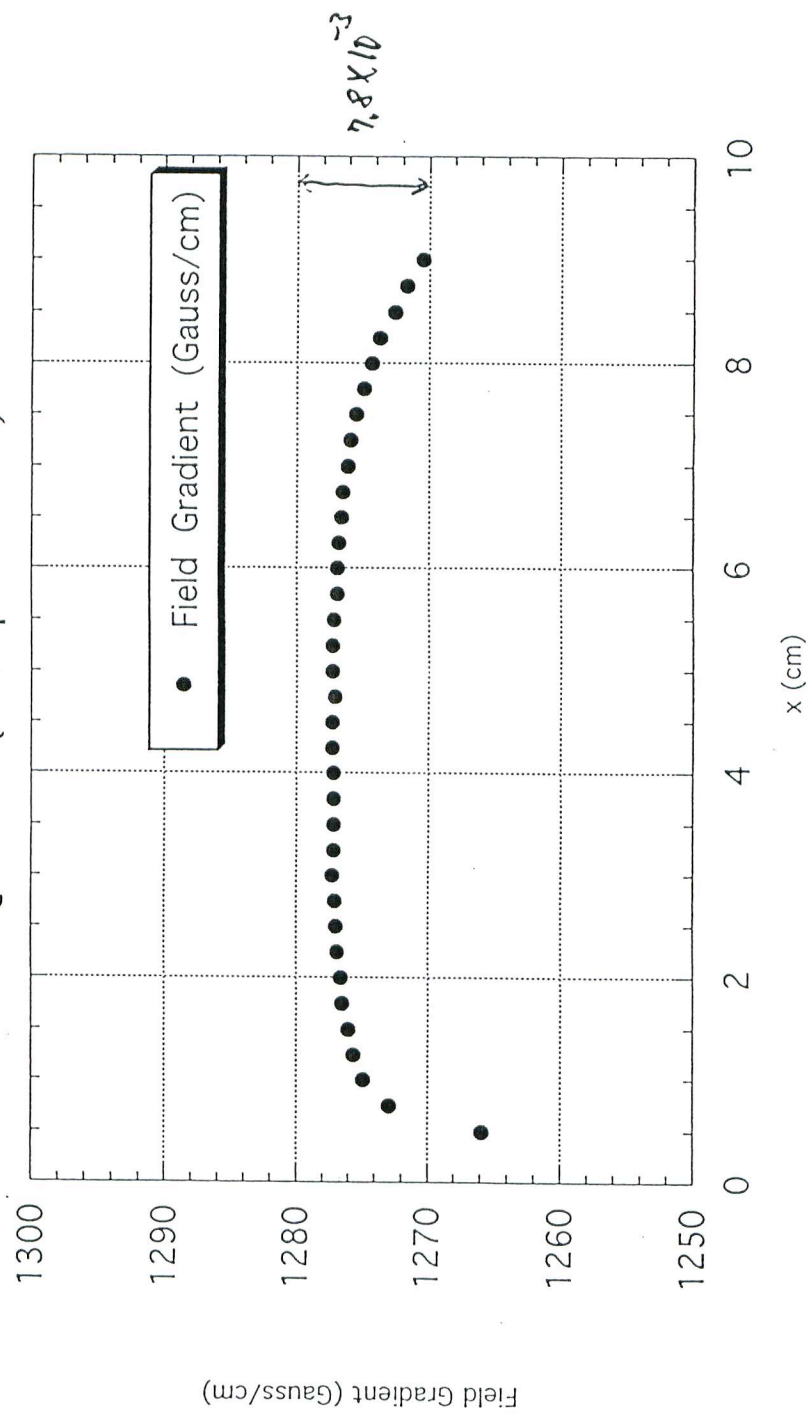


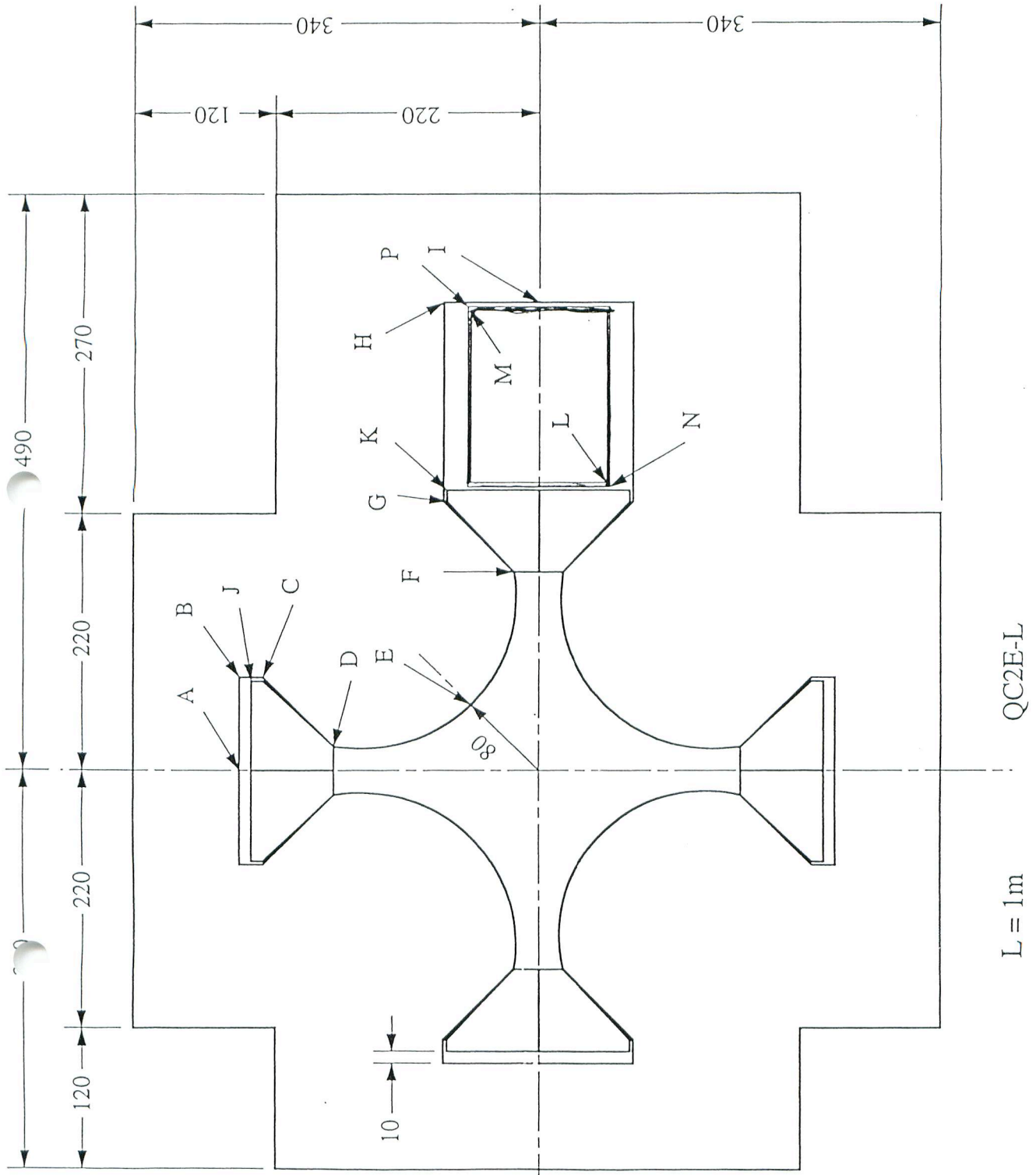


$L = 0.6m$

QC1E-R

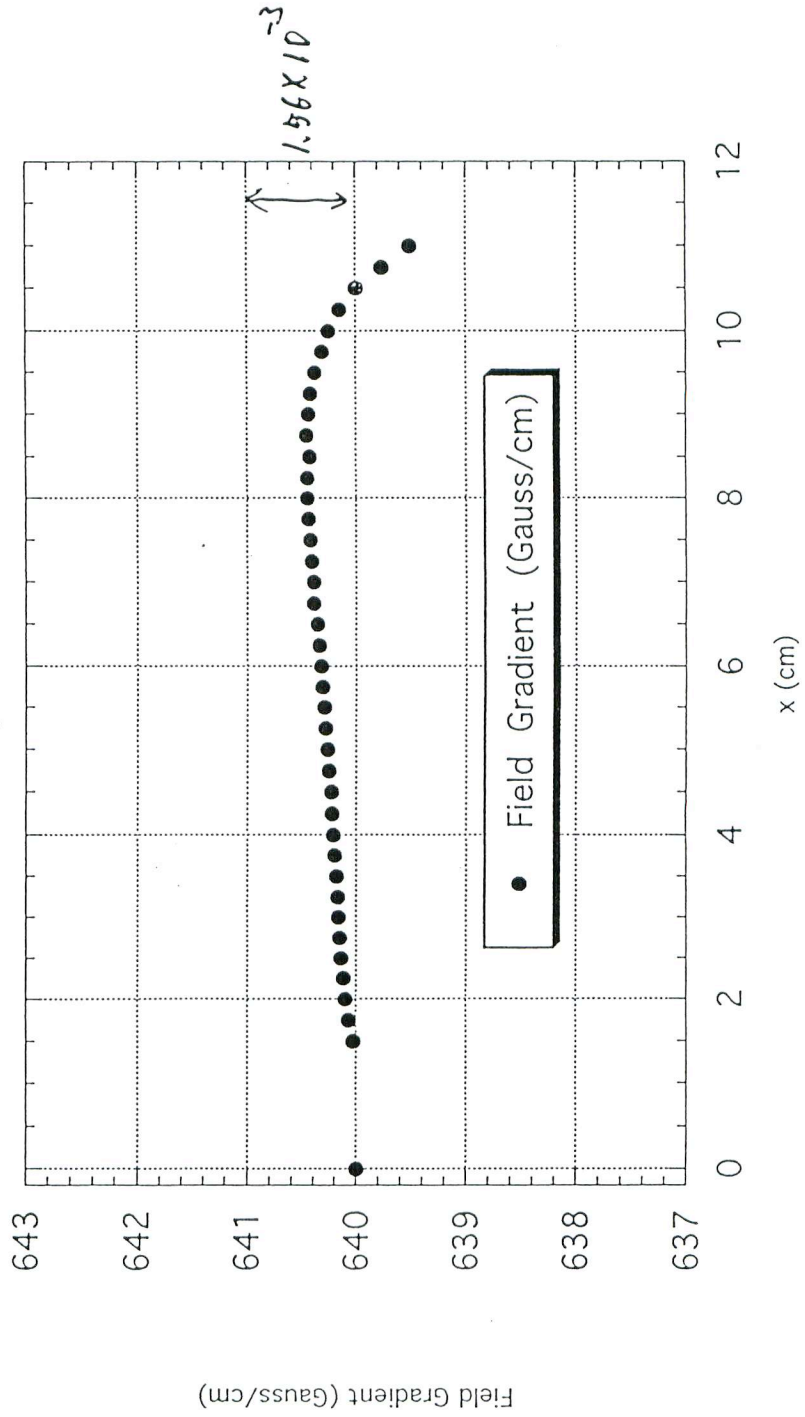
QC1E-R (aux p.s.=700A)

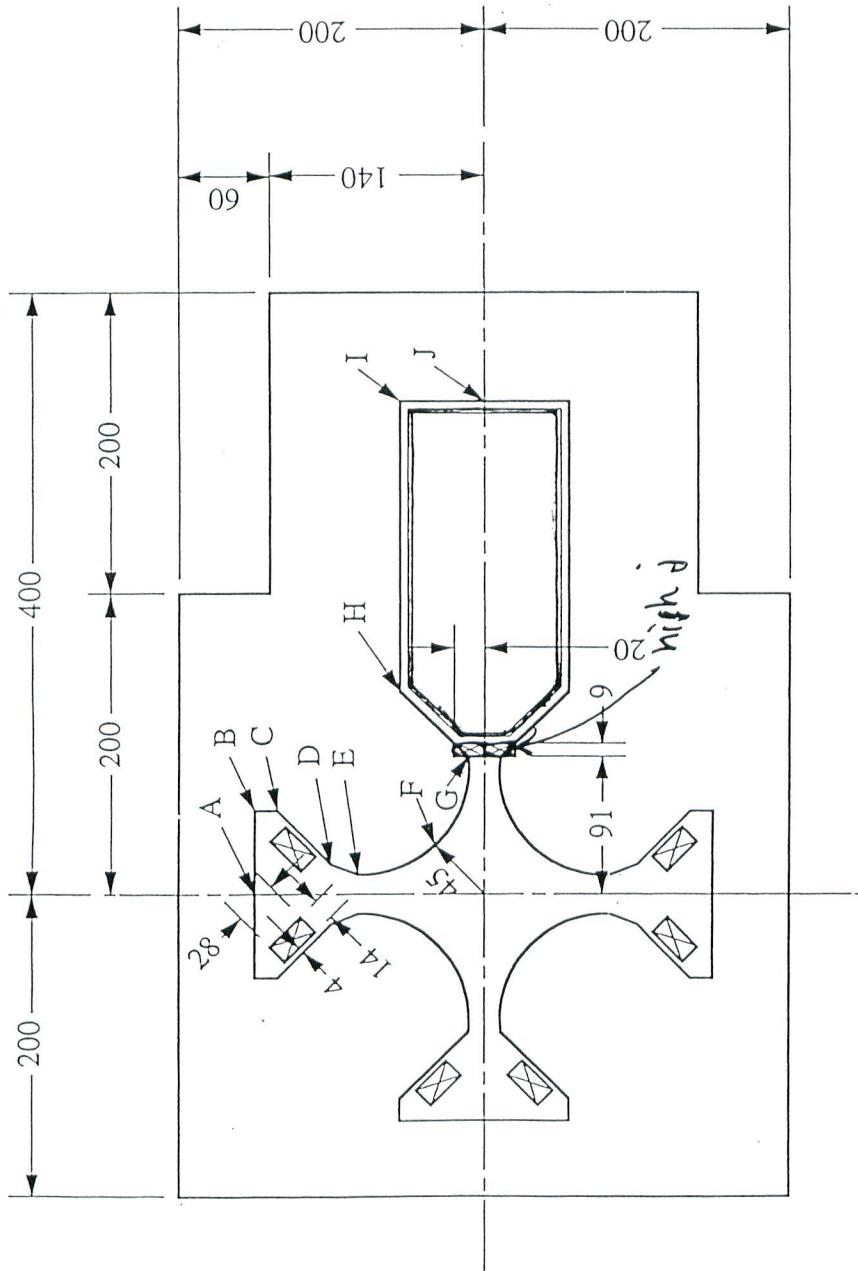




- A. (0, 250)
- B. (80, 250)
- C. (80, 230)
- D. (20, 170)
- E. (56.6, 56.6) ; xy = 3200
- F. (170, 20.6)
- G. (230, 80)
- H. (400, 80)
- I. (400, 0)
- J. (77, 240)
- K. (240, 77)
- L. (246, -57.5)
- M. (391, 57.5)
- N. (242.5, -60)
- P. (394.5, 60)

QC2E-L





- A (0, 150)
- B (55, 150)
- C (55, 135)
- D (20, 100)
- E (12.7, 82)
- F (31.8, 31.8) ; $xy = 1012.5$
- G (91, 10.5)
- H (135, 55)
- I (330, 55)
- J (330, 0)

$L = 1m$

QC2P-R

QC2P-R

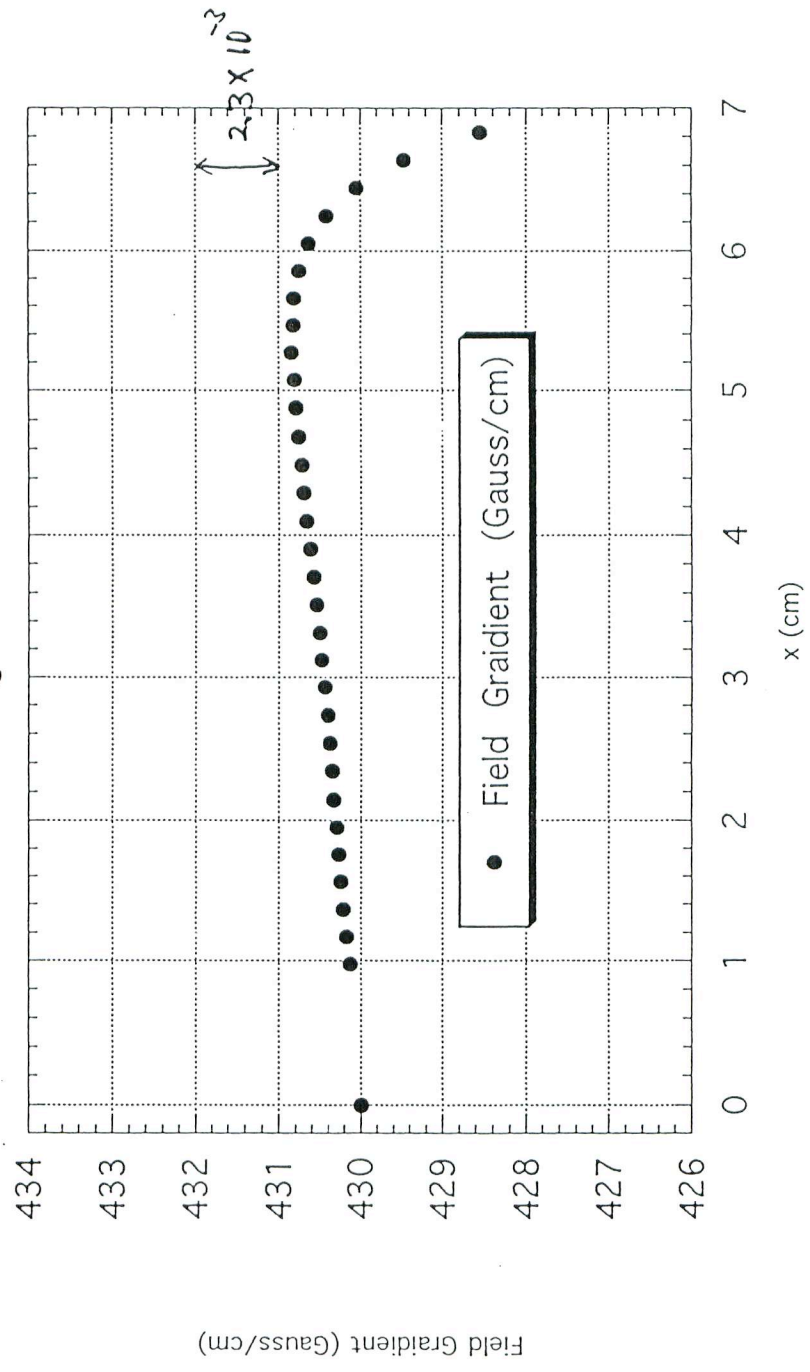


Table II Parameters of IR Quads

	QC1E-L	QC1E-R	QC2E-L	QC2P-R	QC2E-R	QC2P-L
Aperture radius(mm)	38	70	80	45	60	45
Pole length(m)	0.6	0.6	1.0	1.0	0.6	0.6
Max. field gradient(T/m)	15.6	12.7	6.4	4.3	10.9	7.4
Current(AT)	9000	27000	16500	3500	16000	6000
Current density of the septum conductor(A/mm ²)	56	6.8	4.6	<u>22</u>	10	8.7
Field in the area for counter-circulating beam (with magnetic shield)(Gauss)	0 ~ -1	0 ~ -2	2 ~ -0.6	0 ~ -1	-0.5 ~ -2	0.6 ~ -0.5