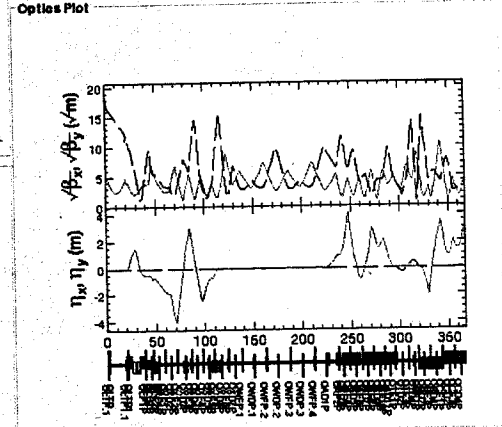


Results of Measurement

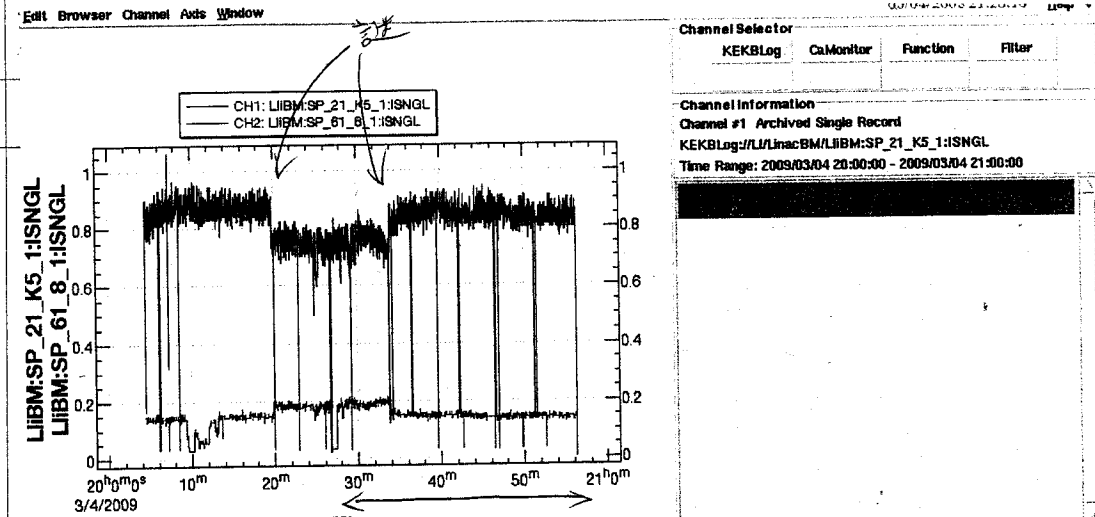
β_x @MWP.1 [m] :	10.633	β_y @MWP.1 [m] :	17.120
α_x @MWP.1 :	-907	α_y @MWP.1 :	.889
ϵ_x [m] :	4.8903E-7	ϵ_y [m] :	2.2047E-7
γ_{cx} [r.m.m.mrad] :	3348.036	γ_{cy} [r.m.m.mrad] :	1509.410
Bmag x :	1.042	Bmag y :	1.352
cBmag x :	5.0973E-7	cBmag y :	2.9807E-7
γ_{cBmag} x :	3489.778	γ_{cBmag} y :	2040.862



Matching 収束しなすこと

QM: BTP03-04-2009-20:52:00
 ST: BTP03-04-2009-20:51:59

12 save



Matching LTr

Target 後の電荷量は既知

09/3/5

3 ring 共通 optics の pt new optics に load (P.139)

~~LINAC: 2009/3/4 20:00 頃の parameter~~

~~{ Q: ~~20090305-20:04:49~~
SF " " 57 (= save~~

LER の Matching LTr parameter (2009/3/4 = 20)

Q: 20090305-09:52:01 (= save

◎ LINAC: 2009/3/4 20:10 頃の parameter

Q: ~~20090305-20:10:00~~
20090306-09:55:10 (= save

(pt/bt は 元の運転 1.5 x - 2 -)
(2008/6/30 頃の)

LER の 5079-Matching 後.

Q 564, Q 584 は ~ 0.5 倍 LTr 後の (P.137)

09/3/6

① pfbt と New optics と 通す。

新谷 大西 倉田 牛本

まず LINAC のみ 3ring 共通 optics と load
("20090306-09:55:10")

軌道補正 DC-ST と 調整。

Pulse St. 48 本 X.FEY control 不能。 → 新谷氏 調査。

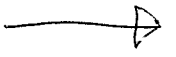
やはり F1 と 合わない

focus coil が local と 合わない。

13:00

BT/BPM data を (CBT1)
(e^+ , e^-)

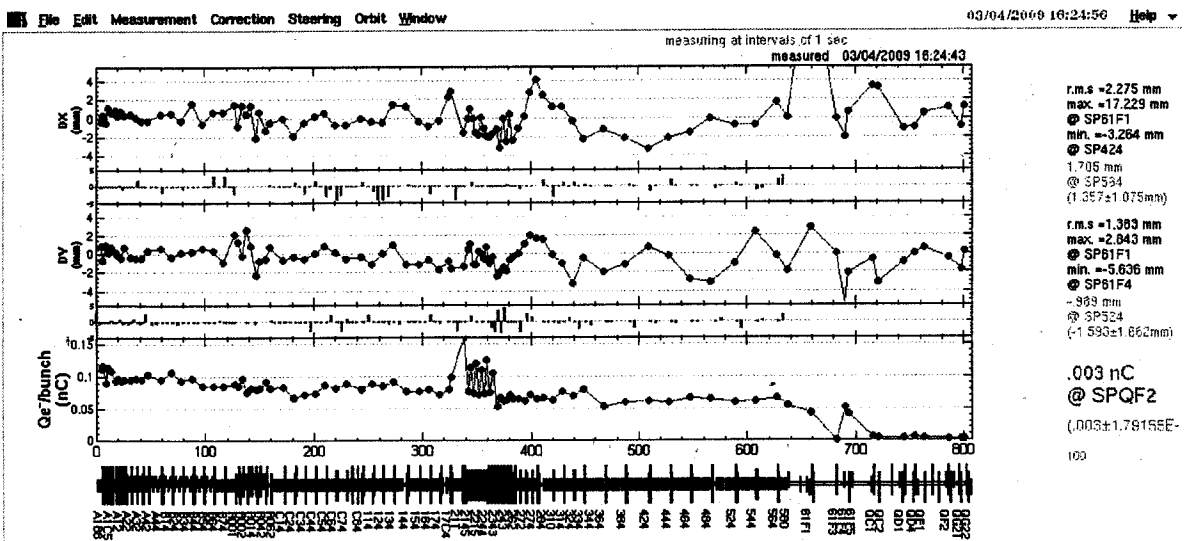
LER beam と BT の wire と 測ってみたら
異常は ほとんどない。 P.141 の 想定 ⁽⁷⁾ 再現可



LER beam と BT の

Matching した。 (P.145 ~ P.146)

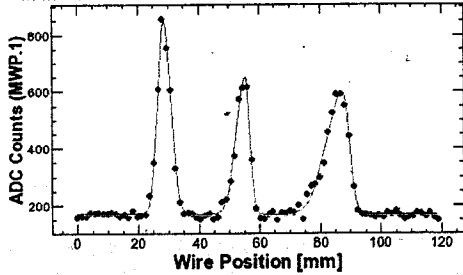
Q "20090306-15:11:55" に save
ST



2009/3/4 16:25頃 3ring 共通 Optics と 通す して 軌道の 軌道
pfbt が (F1 の 7 クリーン で は 確認 出来 ない)

Wire A

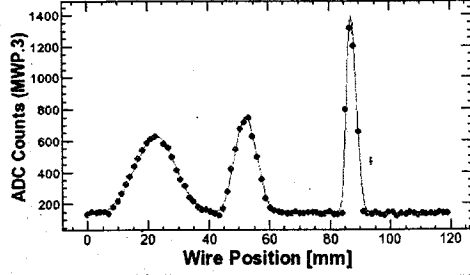
ChiSquare = 19259.1 Goodness = 47763
 sigma1 = 2.15768 +/- 0.4592 sigma2 = 2.22533 +/- 0.6483 sigma3 = 3.73960 +/- 0.9740
 asym1 = 0.6172 +/- 0.4315 asym2 = -0.3694 +/- 0.5263 asym3 = -0.4392 +/- 0.4593
 xwire1 = 28.3627 +/- 11427 xwire2 = 55.4085 +/- 14556 xwire3 = 87.4755 +/- 21613
 b1 = 661.45 +/- 12.2537 b2 = 484.207 +/- 12.0455 b3 = 429.596 +/- 8.42624
 a1 = 189.483 +/- 3.95609 a2 = -0.2710 +/- .00536



File: WS2009_3_6_14_11_29.datA File Pref ReFit 849.5849609375 V 4824

Wire C

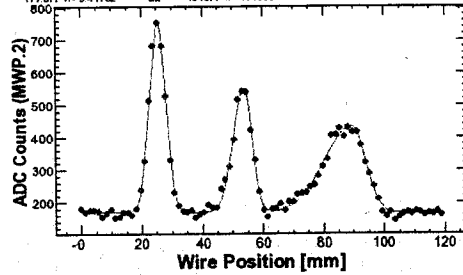
ChiSquare = 39266.8 Goodness = 47768
 sigma1 = 6.78672 +/- 21826 sigma2 = 3.55132 +/- 0.9612 sigma3 = 1.58764 +/- 0.3010
 asym1 = -0.3560 +/- 0.4560 asym2 = 0.1196 +/- 0.6343 asym3 = 0.0638 +/- 0.3823
 xwire1 = 22.5038 +/- 40630 xwire2 = 52.2212 +/- 23197 xwire3 = 87.1913 +/- 07564
 b1 = 496.054 +/- 11.9999 b2 = 617.872 +/- 14.0528 b3 = 1262.52 +/- 20.4425
 a1 = 130.624 +/- 10.1085 a2 = 0.7333 +/- 11.863



File: WS2009_3_6_14_20_41.datC File Pref ReFit 849.5849609375 V 4054

Wire B

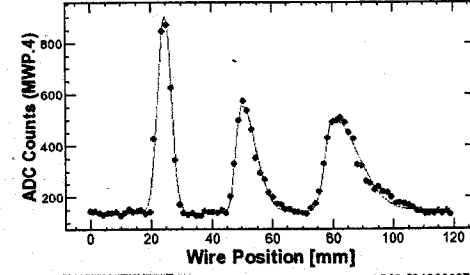
ChiSquare = 12458.6 Goodness = 47763
 sigma1 = 2.85911 +/- 0.4857 sigma2 = 3.14480 +/- 0.8071 sigma3 = 6.81848 +/- 1.8334
 asym1 = -0.0355 +/- 0.3643 asym2 = -0.1845 +/- 0.5025 asym3 = -0.34128 +/- 0.4752
 xwire1 = 25.2377 +/- 11860 xwire2 = 53.8608 +/- 19332 xwire3 = 86.3253 +/- 39422
 b1 = 695.504 +/- 8.96533 b2 = 360.045 +/- 8.21431 b3 = 266.268 +/- 5.84478
 a1 = 371.877 +/- 3.41702 a2 = -0.4877 +/- 0.4986



File: WS2009_3_6_14_13_25.datB File Pref ReFit 849.5849609375 V 4218

Wire D

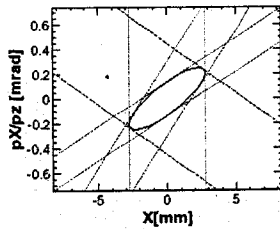
ChiSquare = 26858.5 Goodness = 47768
 sigma1 = 2.20731 +/- 0.5184 sigma2 = 3.20712 +/- 1.1072 sigma3 = 5.44785 +/- 1.8052
 asym1 = -0.0298 +/- 0.4504 asym2 = 4.2980 +/- 0.6019 asym3 = 0.2718 +/- 0.5294
 xwire1 = 24.2964 +/- 13458 xwire2 = 48.8978 +/- 23494 xwire3 = 89.6853 +/- 35313
 b1 = 763.168 +/- 15.0316 b2 = 414.221 +/- 12.0435 b3 = 369.724 +/- 9.35132
 a1 = 137.132 +/- 4.89172 a2 = 13146 +/- 07177



File: WS2009_3_6_14_17_19.datD File Pref ReFit 849.5849609375 V 4148

Wire Scan Optics Calculate Matching

Xphase space at Wire A

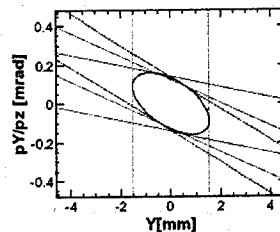


Xphase space at Matching Point

Results of Measurement

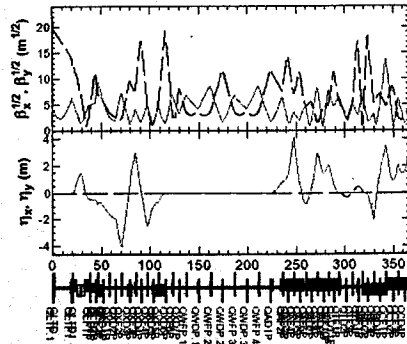
β_x [MWP.1] [m]	20.216	β_y [MWP.1] [m]	11.578
α_x [MWP.1]	-1.495	α_y [MWP.1]	676
ϵ_x [m]	3.7836E-7	ϵ_y [m]	2.0201E-7
γ_x [π.m.m.mrad]	2590.339	γ_y [π.m.m.mrad]	1383.009
Bmag x:	1.435	Bmag y:	1.785
eBmag x:	5.4290E-7	eBmag y:	3.6058E-7
rBmag x:	3716.853	rBmag y:	2468.622

Y phase space at Wire A



Y phase space at Matching Point

Optics Plot

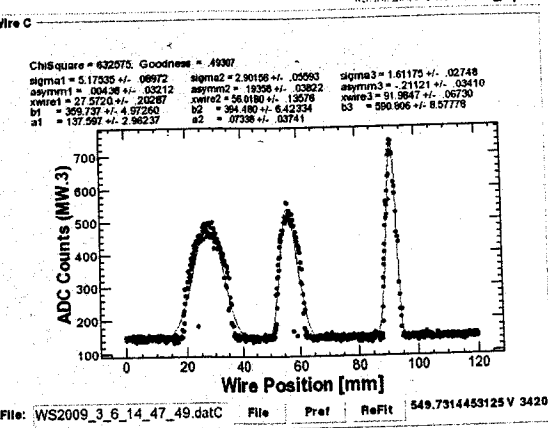
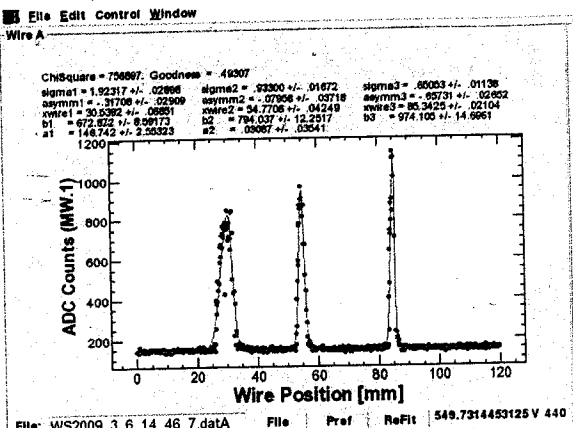


Wire Selection

- 3-wire:ABC
- 3-wire:ABD
- 3-wire:ACD
- 3-wire:BCD
- 4-wire:ABCD

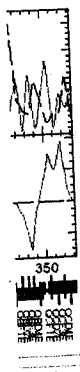
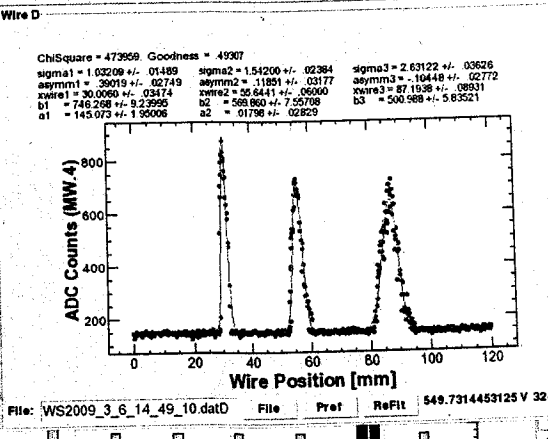
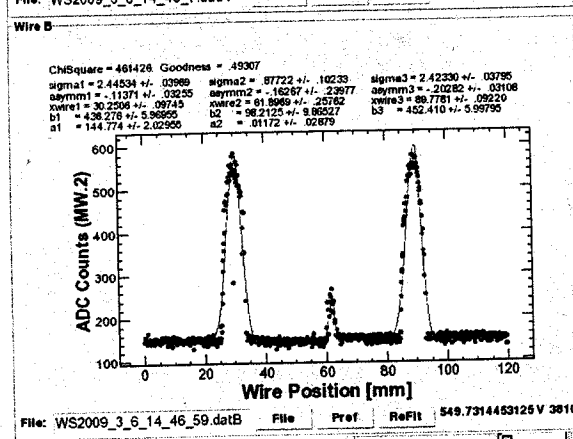
LINAC 79. Q564, Q584 17.
 0.5132211279 (22 A)

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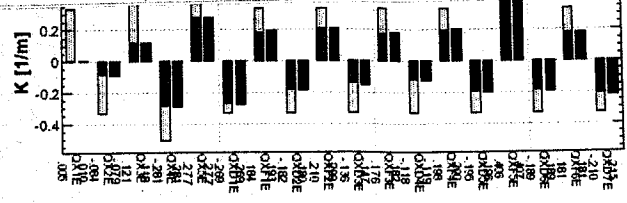


25.430	326
355	397
9.1026E-8	412
1424.443	112
1.956	42
1.7806E-7	702
2786.367	351

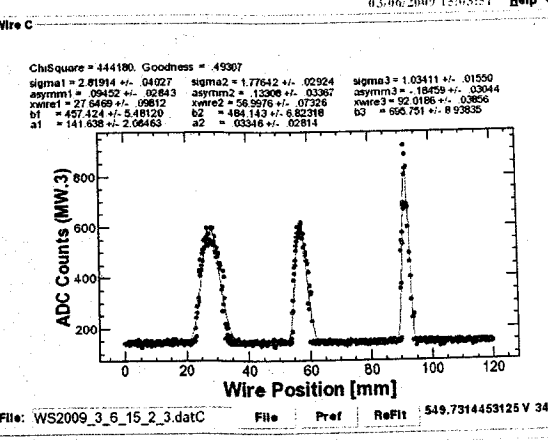
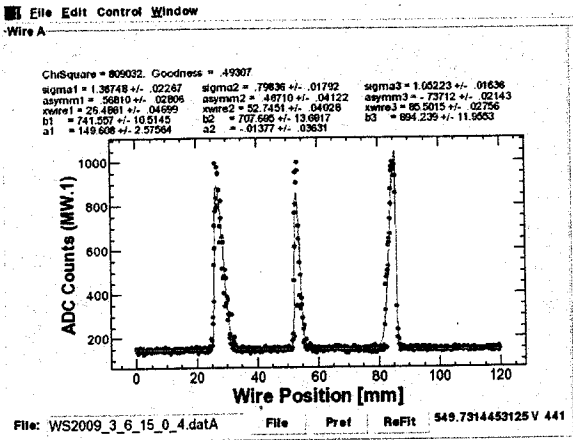
14:48:15
I=save



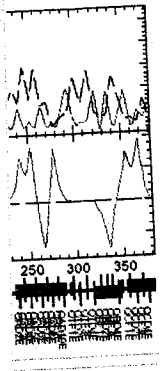
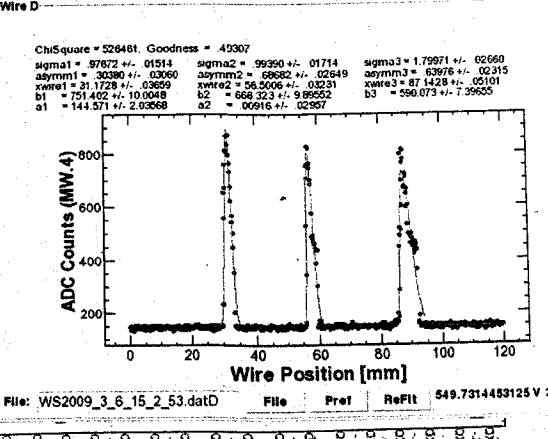
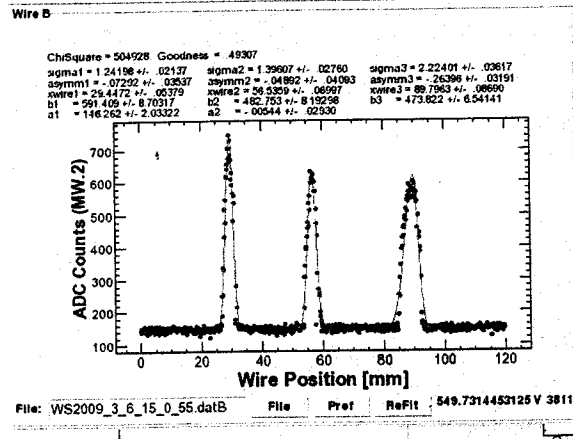
Q-mag Set
 Set Q-Magnets
 Q-mag Read&Write
 Read Q-Mag from File
 Save Q-Mag to File



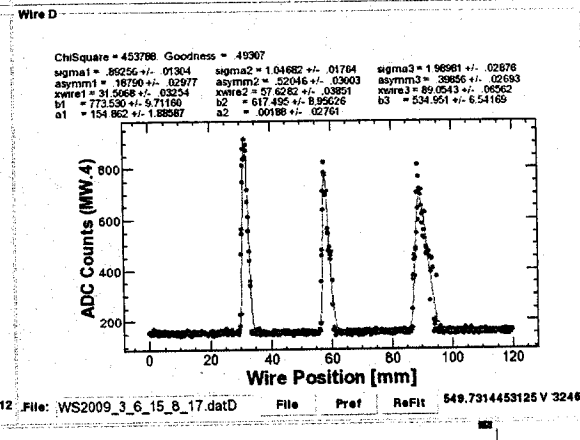
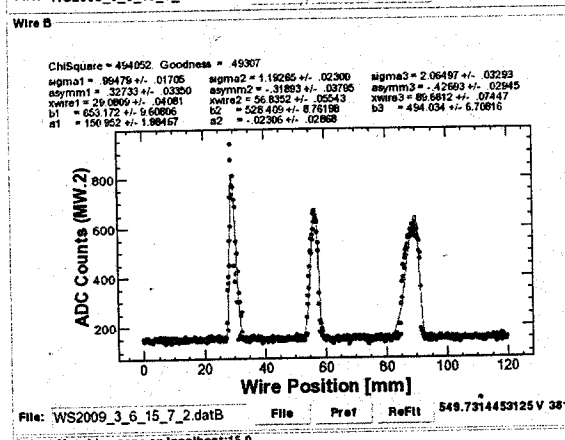
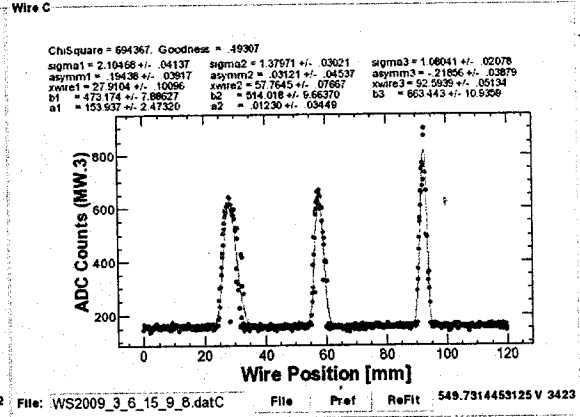
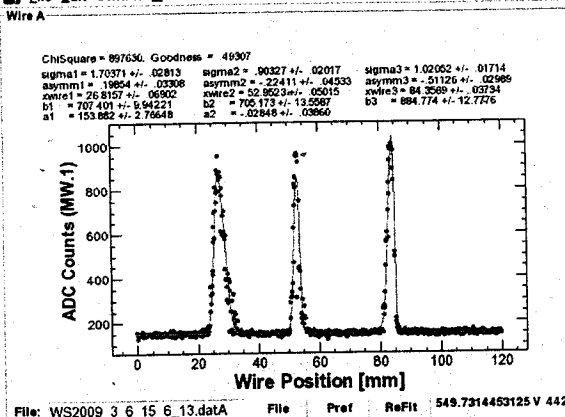
Q:
ST 15:11:55 I=save



[m] :	23.008
:	1.085
:	4.9211E-8
mrad:	770.093
:	1.236
:	6.0825E-8
:	951.826



10
 20
 30
 40
 50
 60
 70
 80
 90
 100
 110
 120
 130
 140
 150
 160
 170
 180
 190
 200



Wire Scan Optics Calculate Matching

X phase space at Wire A **X phase space at Matching Point**

Y phase space at Wire A **Y phase space at Matching Point**

Results of Measurement

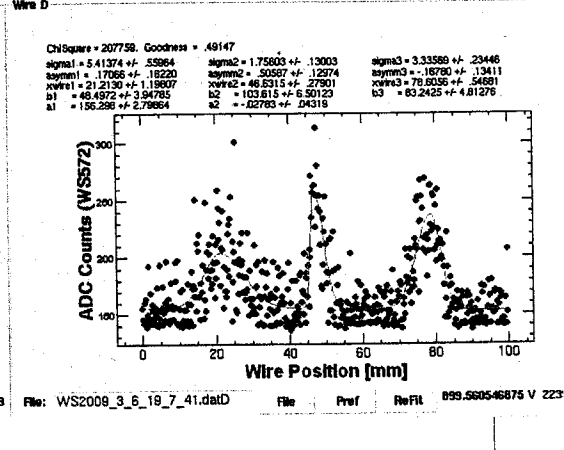
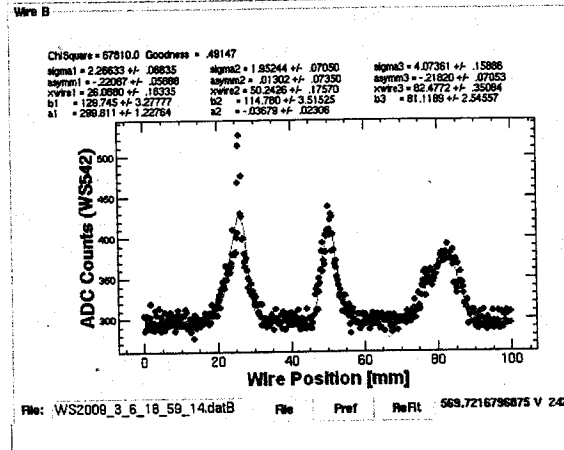
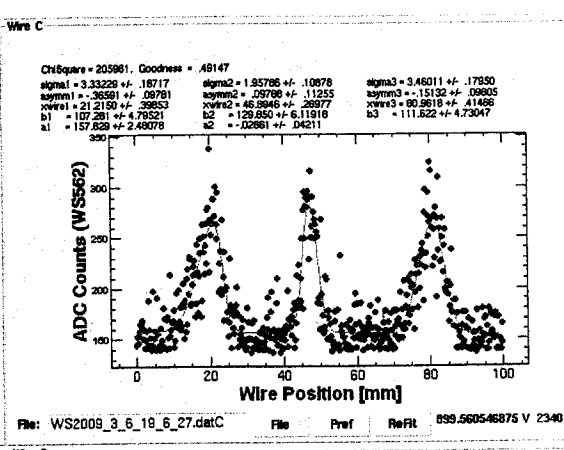
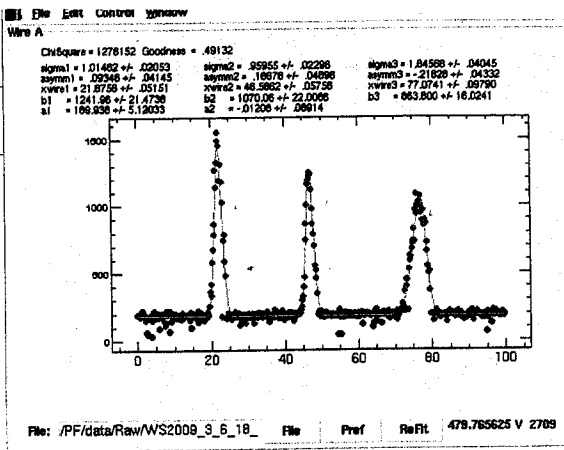
β_x @MW.1 [m] :	9.313	β_y @MW.1 [m] :	35.379
α_x @MW.1 :	-619	α_y @MW.1 :	1.757
ϵ_x [m] :	5.2408E-8	ϵ_y [m] :	4.4739E-8
γ_x [π.mm.mrad] :	820.122	γ_y [π.mm.mrad] :	700.104
Bmag x :	1.002	Bmag y :	1.029
ϵ Bmag x :	5.2498E-8	ϵ Bmag y :	4.6046E-8
γ Bmag x :	821.524	γ Bmag y :	720.559

Optics Plot

Wire Selection

3-wire:ABC 3-wire:ABD 3-wire:ACD 3-wire:BCD
 4-wire:ABCD

20090306-15:11:55 12 save
 LINAC 17. LOR matching (wire 2 & 3)



File Edit Window 03/06/2009 16:10:20 Help

Wire Scan Optics Calculate Matching

X phase space at Wire A

X phase space at Matching Point

Y phase space at Wire A

Y phase space at Matching Point

Results of Measurement

β_x @AC574+1 [m] :	102.926	β_y @AC574+1 [m] :	38.504
α_x @AC574+1 :	2.632	α_y @AC574+1 :	.828
ϵ_x [m] :	9.0339E-8	ϵ_y [m] :	1.0874E-7
γ_{Cx} [fL.mm.mrad] :	441.871	γ_{Cy} [fL.mm.mrad] :	531.986
Bmag x :	5.842	Bmag y :	2.206
EBmag x :	5.2776E-7	EBmag y :	2.3880E-7
γ_{CEBmag} x :	2582.021	γ_{CEBmag} y :	1173.668

Optics Plot

Wire Selection

3-wire:ABC 3-wire:ABD 3-wire:ACD 3-wire:BCD

4-wire:ABCD

Wire Selection

3-wire:ABC 3-wire:ABD 3-wire:ACD

4-wire:ABCD

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Variable	Keyword	Now	Previous	Saved	Minimum	Maximum	Couple	Coefficient
QF61F1	K1	.132752802253	!.132752802	.211859143	-1.00000E10	1.000000E10	<--	1.00000000
QD61F1	K1	-.167282903308	!-.167282903	-.198911475	-1.00000E10	1.000000E10	<--	1.00000000
QF61F3	K1	.083830600122	!.083830600	.044162729	-1.00000E10	1.000000E10	<--	1.00000000
QD61F5	K1	-.023560512107	!-.023560512	-.022365793	-1.00000E10	1.000000E10	<--	1.00000000
QC1	K1	.132266547343	!.132266547	.166467051	-1.00000E10	1.000000E10	<--	1.00000000
QC2	K1	-.141826182504	!-.141826183	-.139724548	-1.00000E10	1.000000E10	<--	1.00000000
QC3	K1	.105936710021	!.105936710	.147092175	-1.00000E10	1.000000E10	<--	1.00000000
QD1	K1	-.047346457116	!-.047346457	-.088100100	-1.00000E10	1.000000E10	<--	1.00000000
QD2	K1	.133369727095	!.133369727	.093673700	-1.00000E10	1.000000E10	<--	1.00000000
QD3	K1	-.354367104405	!-.354367104	-.261179200	-1.00000E10	1.000000E10	<--	1.00000000
QD4	K1	.232491974927	!.232491975	.221346800	-1.00000E10	1.000000E10	<--	1.00000000
QE1	K1	-.303023252657	!-.303023253	-.303025100	-1.00000E10	1.000000E10	<--	1.00000000
QE2	K1	.161233123945	!.161233124	.182996200	-1.00000E10	1.000000E10	<--	1.00000000
QF1	K1	.237730220715	!.237730221	.284049000	-1.00000E10	1.000000E10	<--	1.00000000
QF2	K1	-.306225586537	!-.306225587	-.319426400	-1.00000E10	1.000000E10	<--	1.00000000
QG1	K1	.270333300000	!.270333300	.270333300	-1.00000E10	1.000000E10	<--	1.00000000
QG2	K1	-.270435800000	!-.270435800	-.270435800	-1.00000E10	1.000000E10	<--	1.00000000
QG3	K1	.345533600000	!.345533600	.345533600	-1.00000E10	1.000000E10	<--	1.00000000
QG4	K1	-.185361100000	!-.185361100	-.185361100	-1.00000E10	1.000000E10	<--	1.00000000

とやがて、LINAC側の4台のみ set.
 ("pfbt-magnet-setting-3rings-2.dat")
 PF側は、P.139の子。
 LINACの parameter は。
 "20090306-20:53:26"

03/06/2009 21:29:04 Help

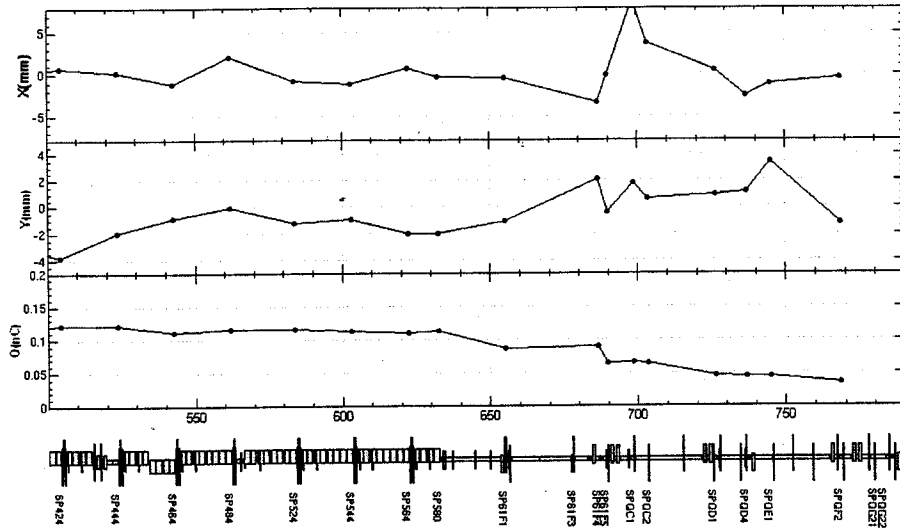
File Edit Window

Quad	Read (I/B')	File (I/B')	Steering	Read (I)	File (I)
QD/D 38 4	8.066 15.5684	8.066 15.5684	SX A1 00	.001	.000
QF 38 4	7.912 15.3606	7.912 15.3606	SY A1 00	.001	.000
QD/D 42 4	8.733 17.3003	8.733 17.3003	SX A1 04	1.650	.000
QF 42 4	8.740 16.8690	8.740 16.8690	SY A1 04	-.629	.000
QD/D 44 4	10.645 20.5780	10.645 20.5780	SX A1 S6	.001	.000
QF 44 4	10.549 20.4969	10.549 20.4969	SY A1 S6	.001	.000
QD 44 1	.000 .0000	.000 .0000	BK A1 B8	-.414	.000
QF 44 3	.000 .0000	.000 .0000	BY A1 B8	.158	.000
QD/D 46 4	10.659 21.0082	10.659 21.0082	BK A1 C5	-.294	.000
QF 46 4	10.945 21.2804	10.945 21.2804	BY A1 C5	.050	.000
QD/D 48 4	10.095 19.2623	10.095 19.2623	SX A1 21	-.028	.000
QF 48 4	10.681 20.8706	10.681 20.8706	SY A1 21	.074	.000
QD/D 52 4	16.835 17.7491	16.835 17.7491	BK A1 22	-.031	.000
QF 52 4	17.128 17.8624	17.128 17.8624	BY A1 22	.206	.000
QD/D 54 4	6.593 7.1394	6.593 7.1394	BK A1 M	.001	.000
QF 54 4	6.081 6.7583	6.081 6.7583	BY A1 M	.001	.000
QD/D 56 4	9.275 10.0371	9.275 10.0371	SX A1 B4	-.160	.000
QF 56 4	9.597 10.4349	9.597 10.4349	SY A1 B4	.170	.000
QD/D 58 4	16.513 17.6673	16.513 17.6673	SX A1 1	.001	.000
QF 58 4	16.322 17.4659	16.322 17.4659	SY A1 1	-.126	.000
QD 61 6	9.499 3.3348	9.499 3.3348	SX A1 G1	.001	.000
QF 61 6	1.355 5316	1.355 5316	SY A1 01	.001	.000
QD 61 8	19.976 6.9135	19.976 6.9135	SX A2 1	-.265	.000
QF 61 8	17.570 6.0839	17.570 6.0839	SY A2 1	-.370	.000
QD 61 A1	3.786 3.7863	3.786 3.7863	SX A2 2	-.199	.000
QF 61 A1	.000 .0000	.000 .0000	SY A2 2	.548	.000
QD 61 F1	9.043 2.6881	9.043 2.6881	SX A2 3	.302	.000
QF 61 F1	11.256 3.3872	11.256 3.3872	SY A2 3	-.538	.000
QD 61 F3	.799 2.0063	.799 2.0063	SX A2 4	-.839	.000
QF 61 F5	.205 5647	.205 5647	SY A2 4	.062	.000

Read Save File Diff

Select Clear Set Magnet

mnt\data1b\data/LINAC/LCG/magnet/2009/03/klbp20090306-20:53:20 sfile



Mode	:GFE
Symbol	SP*
Begin (m)	
+100	-100
+50	-50
+10	-10
SPAN (m)	
+100	-100
+50	-50
+10	-10
SCALE	
X +1	X -1
Y +1	Y -1
Q +0.1	Q -0.1
Q +5.0	Q -5.0
Q threshold	.015
Stop	
Mea-Ref	
Meas->Ref	

↑ PFの可成腕力センサーに53軌道調整。
17のSTのあたりで。