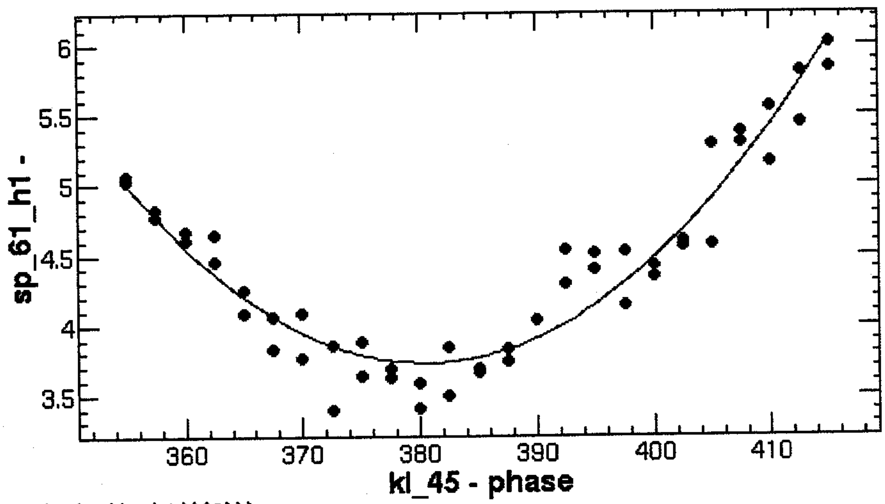
File Edit Window 04/11/2007 22:46:45 Help

ChiSquare = 1.98028 Goodness = .47256

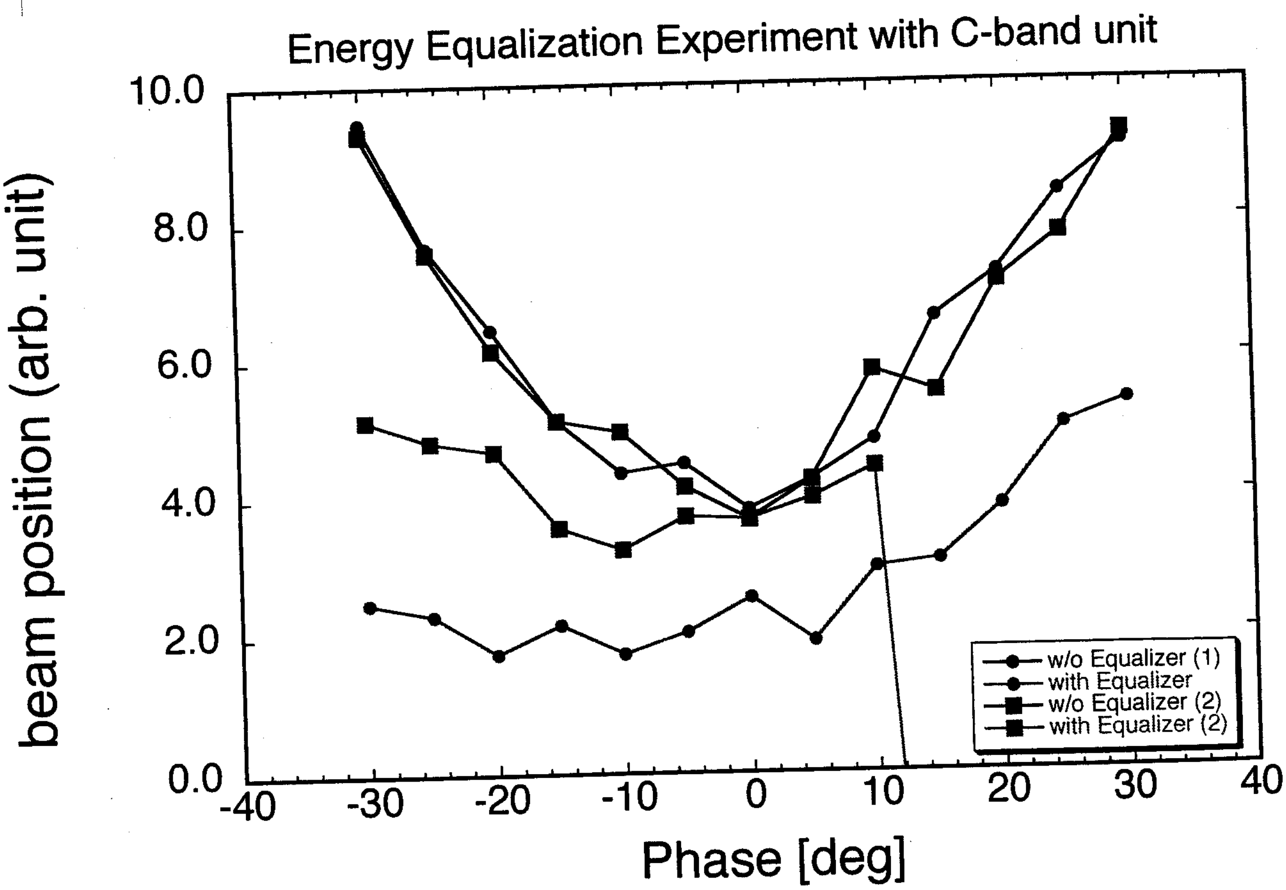
a = .00195 +/- 1.00E-4 b = 380.522 +/- .47210 c = 3.72922 +/- .04274

+3.8mm

+3.6.



Function = (c+(a ((x+(-b))^2)))



2007.4.20 (金) Energy Equalization の準備としての 500 MeV e^+ ビーム調整

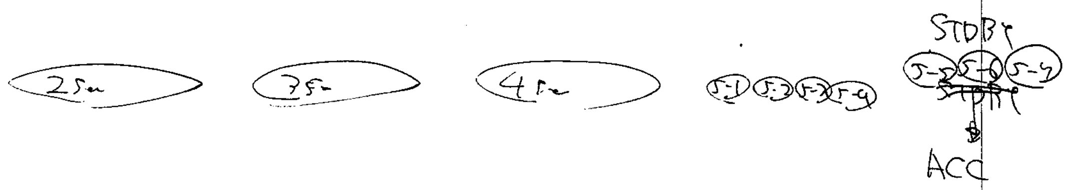
17:46 4/11 の実験準備時の パラメータを読み出す

- Magnet
- Phase　A1の位相が変更になっているので、使わない
- Acc/Stb　変わっていない。

-24.42

BM_61_1/6 → zero → 極性 → 450A にする
BM_61_2/3/4/5 → zero

Magnet Parameter (4/10) を Load する



3.5

①④-7 ④-8 ① SB_5 255.6° → 75.6° Δφ=180°
② 4-6 4-7 4-8 Δφ=180°

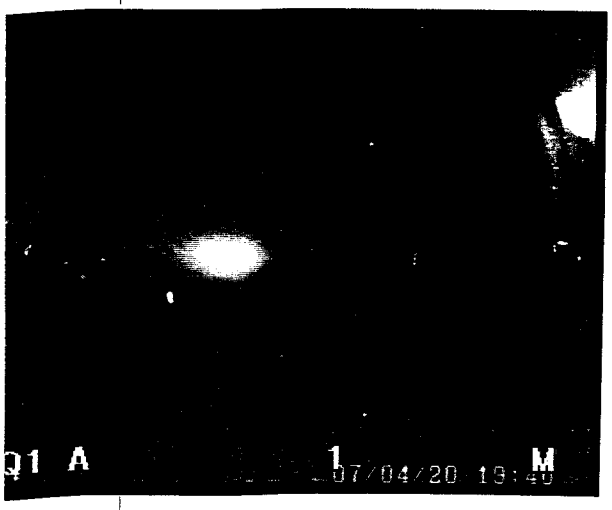
1260°

3.844 GeV　0.5+0.5+5 = 6 unit × 160 = 962 ⇒ 1924) SB5の
2.024 GeV) 4-8
1.730
+27° +180°) 4-7
1.439
1.150) 4-6
0.975 4-5 φSB_2, φSB_3 で E 調整
↓
0.789 4-3
180

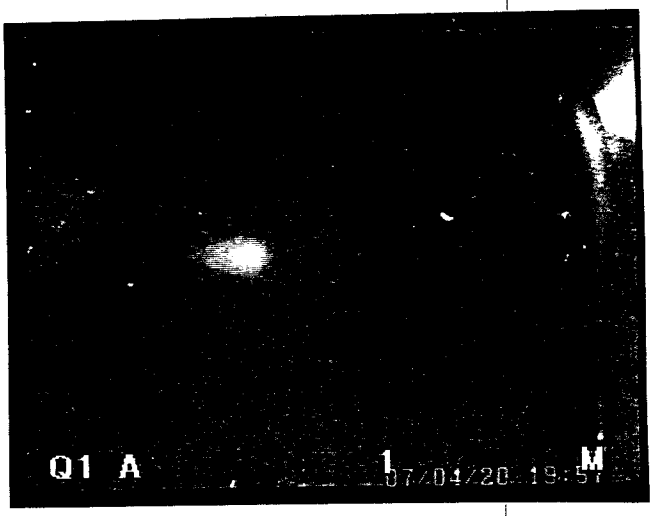
φ44 = 217°　310° が zero 加速 → 28.8 くらいが E 最小

↗ I_{BMGL} = 25.763A

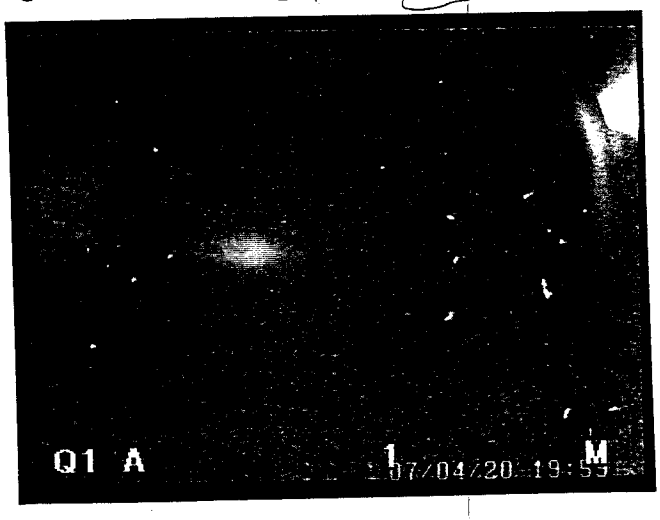
(1) @737 MeV only S-band



(2) @561 MeV with ⊖ C-band



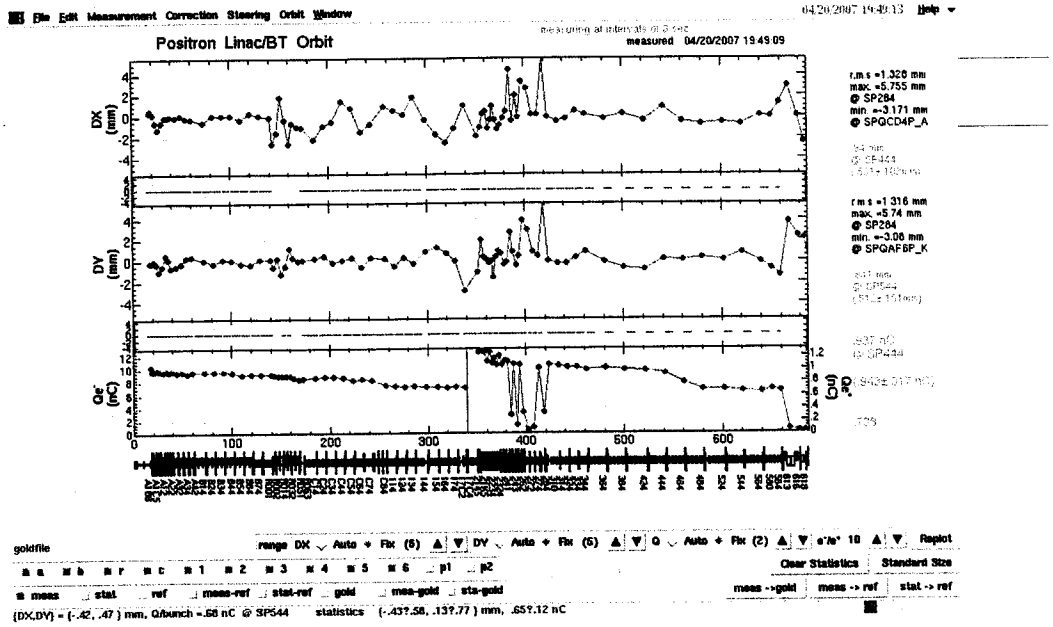
(3) @561 MeV C-band 4-4 と 4-2 は STDBF



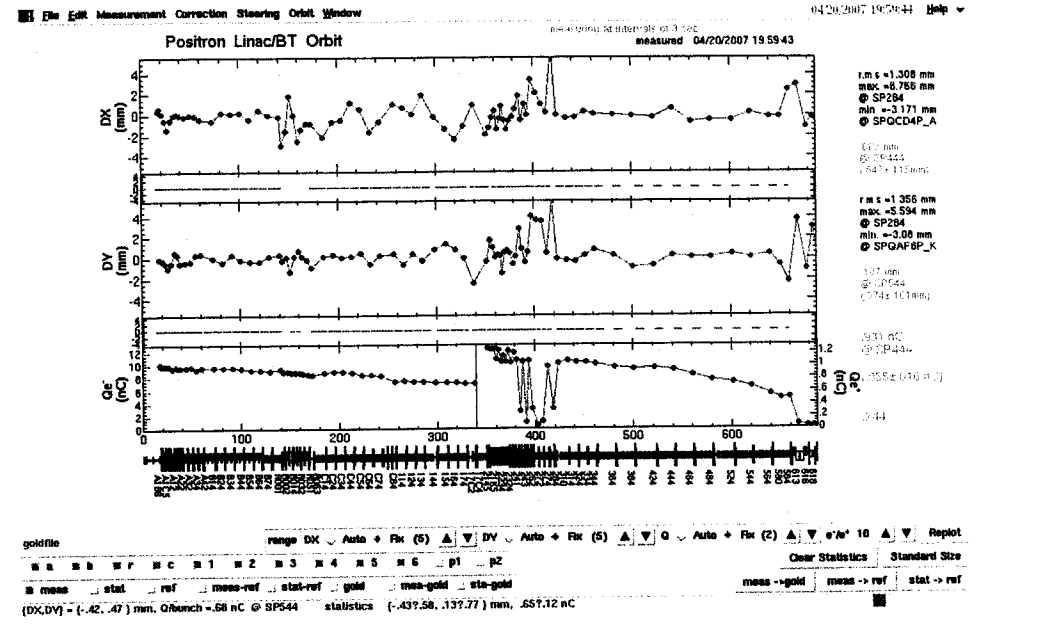
spot で見る限り energy equalization をしても energy spread の見かけには あまり違いが ないようだ.

ビームカレントが 半分以上 ロスしているので エネルギー tail が あまり ないせいか?

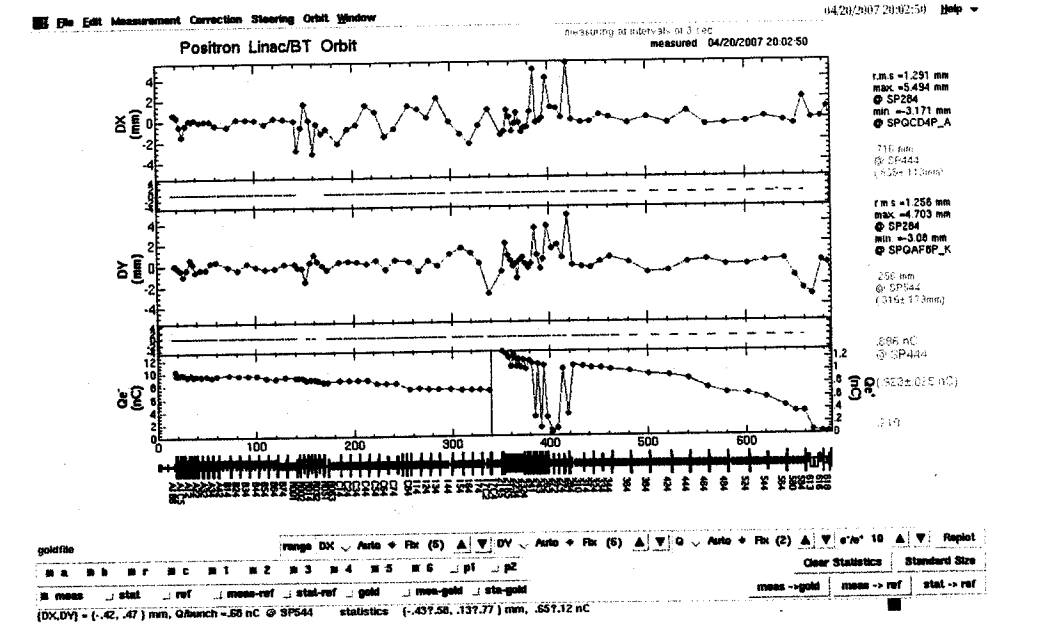
(1)


File Edit Measurement Correction Steering Orbit Window
04/20/2007 19:49:13 Help
Positron Linac/BT Orbit
measured 04/20/2007 19:49:09
DX (mm)
DY (mm)
Qe (nC)
r.m.s =1.320 mm
max. =5.755 mm
@ SP284
min =-3.171 mm
@ SPQCD4P_A
r.m.s =1.316 mm
max. =5.74 mm
@ SP284
min. =-3.06 mm
@ SPQAF6P_K
goldfile
range DX Auto Fix (5) DY Auto Fix (5) Q Auto Fix (2) e'/e' 10 Replot
Clear Statistics Standard Size
meas stat ref meas-ref stat-ref gold meas-gold sta-gold
meas ->gold meas -> ref stat -> ref
(DX,DY) = (-.42, .47) mm, Q/bunch =.68 nC @ SP544 statistics (-.43?.58, .13?.77) mm, .65?.12 nC

(2)


File Edit Measurement Correction Steering Orbit Window
Positron Linac/BT Orbit
measured 04/20/2007 19:59:43
DX (mm)
DY (mm)
Qe (nC)
r.m.s =1.308 mm
max. =6.766 mm
@ SP284
min =-3.171 mm
@ SPQCD4P_A
r.m.s =1.356 mm
max. =5.594 mm
@ SP284
min. =-3.06 mm
@ SPQAF6P_K
goldfile
range DX Auto Fix (5) DY Auto Fix (5) Q Auto Fix (2) e'/e' 10 Replot
Clear Statistics Standard Size
meas stat ref meas-ref stat-ref gold meas-gold sta-gold
meas ->gold meas -> ref stat -> ref
(DX,DY) = (-.42, .47) mm, Q/bunch =.68 nC @ SP544 statistics (-.43?.58, .13?.77) mm, .65?.12 nC

(3)

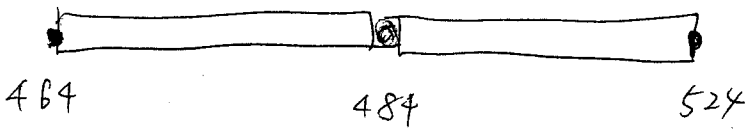

File Edit Measurement Correction Steering Orbit Window
04/20/2007 20:02:50 Help
Positron Linac/BT Orbit
measured 04/20/2007 20:02:50
DX (mm)
DY (mm)
Qe (nC)
r.m.s =1.291 mm
max. =5.494 mm
@ SP284
min =-3.171 mm
@ SPQCD4P_A
r.m.s =1.256 mm
max. =4.703 mm
@ SP284
min =-3.06 mm
@ SPQAF6P_K
goldfile
range DX Auto Fix (5) DY Auto Fix (5) Q Auto Fix (2) e'/e' 10 Replot
Clear Statistics Standard Size
meas stat ref meas-ref stat-ref gold meas-gold sta-gold
meas ->gold meas -> ref stat -> ref
(DX,DY) = (-.42, .47) mm, Q/bunch =.68 nC @ SP544 statistics (-.43?.58, .13?.77) mm, .65?.12 nC

20:08

4セクター Alignment 測定

PF 2.5 GeV で測定　　飯田、草野

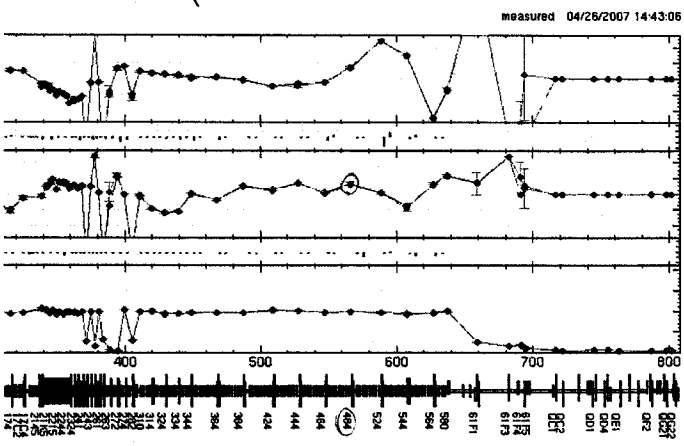
Study Note No. 8 P53 より. 2.5 GeV と 8 GeV ビームを通すと.
484 で. Vertical Kick をうける → 484 の Alignment check

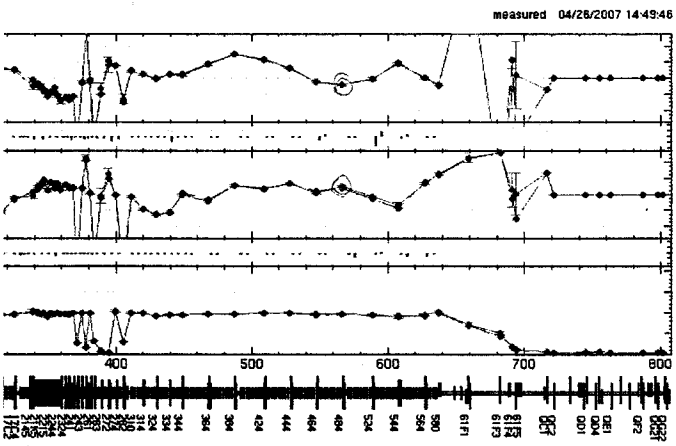


KLY_47, 48, 51, 52 を StdBy にする.
QM 484 を 0 に
St 513. 484. 47-1, 47-3

464, 524 をまっすぐに通して. 484 の offset を測定する

(* BY_384 で. Y 方向にけると, X 方向に軌道がでた.)





X				Y			
Name	Dac	Adc	Status	Name	Dac	Adc	Status
	-0.299	-0.315		SY_31_1	0.001	-0.002	
SX_31_3	0.001	-0.002		SY_31_3	0.001	0.007	
SX_32_1	0.001	0.007		SY_32_1	0.001	0.007	
SX_32_3	0.001	0.005		SY_32_3	0.001	0.005	
SX_33_1	0.001	0.020		SY_33_1	0.001	0.020	
SX_33_3	0.001	0.017		SY_33_3	0.001	0.017	
SX_34_1	-1.757	-1.863		SY_34_1	0.001	-0.002	
SX_34_3	0.001	-0.002		SY_34_3	0.001	-0.002	
SX_35_1	-0.299	-0.300		SY_35_1	0.001	-0.002	
SX_35_3	-0.001	-0.002		SY_35_3	0.001	-0.002	
SX_37_1	0.001	-0.002		SY_37_1	0.001	-0.002	
SX_37_3	0.001	0.000		SY_37_3	0.001	0.000	

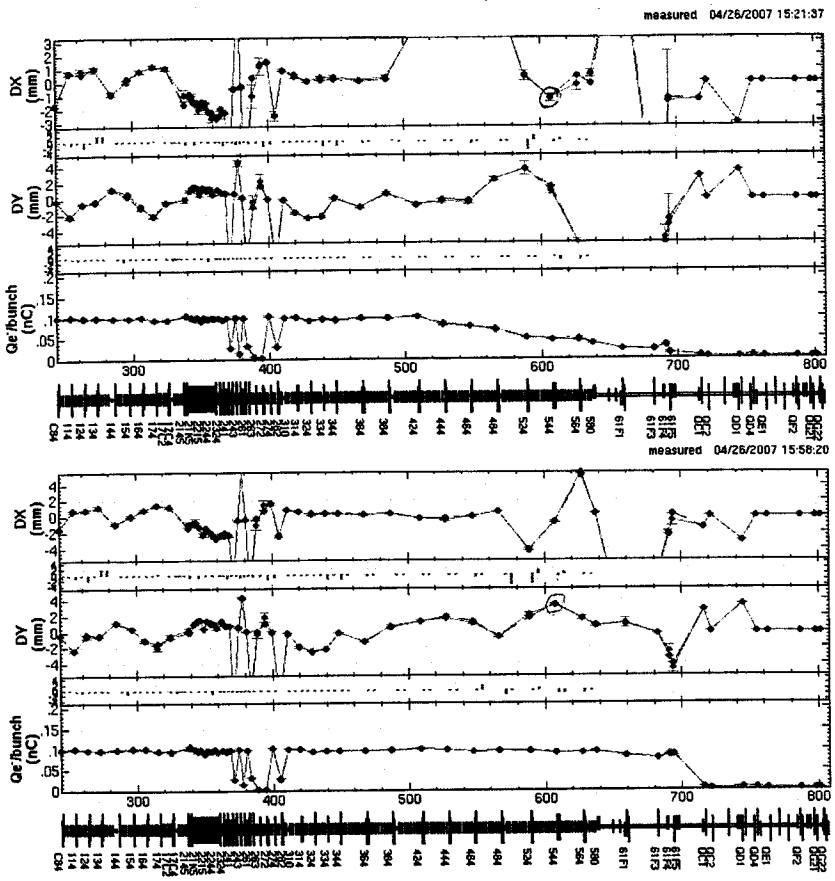
X				Y			
Name	Dac	Adc	Status	Name	Dac	Adc	Status
	-0.099	0.002	OFF	BY_48_4	0.241	0.012	OFF
SX_51_3	0.001	0.029	OFF	SY_51_3	-0.001	0.005	OFF
SX_53_1	-3.501	-3.499		SY_53_1	-1.000	-0.996	
SX_53_3	1.535	1.536		SY_53_3	-1.044	-1.042	
SX_55_1	-0.800	-0.798		SY_55_1	0.001	0.000	
SX_55_3	0.556	0.554		SY_55_3	-0.597	-0.596	
SX_57_1	0.001	0.000		SY_57_1	-0.346	-0.344	
SX_57_3	0.001	0.000		SY_57_3	0.001	0.002	
BX_58_4	-0.005	-0.010		BY_58_4	0.103	0.137	

X				Y			
Name	Dac	Adc	Status	Name	Dac	Adc	Status
	-0.118	-0.122		BY_38_4	-0.270	-0.266	
SX_41_3	0.001	0.005		SY_41_3	0.001	0.005	
SX_43_1	0.001	0.000		SY_43_1	0.001	0.000	
SX_43_3	0.001	0.000		SY_43_3	0.001	0.005	
SX_45_1	0.001	0.000		SY_45_1	0.001	0.000	
SX_45_3	-0.199	-0.198		SY_45_3	-0.299	-0.293	
SX_47_1	-1.449	0.002	OFF	SY_47_1	-1.400	0.020	OFF
SX_47_3	0.475	0.015	OFF	SY_47_3	0.001	0.012	OFF

Name	Dac	Adc	Status
	4.571	4.541	
QF_42_4	4.716	4.702	
QD/D_44_4	5.363	5.332	
QF_44_4	5.158	5.098	
QD_44_1	0.000	0.000	
QF_44_3	0.000	0.000	
QD/D_46_4	6.139	6.094	
QF_46_4	5.758	5.742	
QD/D_48_4	6.330	0.220	OFF

484 { X ~0.7 mm ~0.5 mm
Y ~1.3 mm ~1.0 mm } の offset.

KLY 53, 54. 55 → Stdby



Name	Dac	Adc	Status
BX_48_4	0.001	-0.002	
BX_51_3	-3.698	-3.699	
BX_53_1	-3.501	0.029	OFF
BX_53_3	1.535	-0.002	OFF
BX_55_1	-0.000	0.029	OFF
BX_55_3	0.558	0.012	OFF
BX_57_1	0.001	0.000	
BX_57_3	0.001	-0.002	
BX_58_4	-0.005	-0.010	

Name	Dac
BY_48_4	0.441
	-1.100
BY_53_1	-1.000
BY_53_3	-1.044
BY_55_1	0.001
BY_55_3	-0.697
BY_57_1	-0.346
BY_57_3	0.001
BY_58_4	0.103

Name	Dac	Adc	Status
	-0.179	-0.183	
BX_41_3	0.001	0.005	
BX_43_1	0.001	0.002	
BX_43_3	0.001	0.000	
BX_45_1	0.001	0.000	
BX_45_3	0.001	0.002	
BX_47_1	-0.998	-0.996	
BX_47_3	0.001	0.000	

Name	Dac
BY_38_4	-0.153
BY_41_3	0.001
BY_43_1	-0.399
BY_43_3	-0.199
BY_45_1	1.601
BY_45_3	-1.799
BY_47_1	-0.499
BY_47_3	0.001

Name	Dac	Adc	Status
	17.861	17.812	
QF_52_4	17.319	17.285	
QD/D_54_4	0.000	0.015	OFF
QF_54_4	0.000	0.015	OFF
QD/D_56_4	14.901	14.863	
QF_56_4	16.366	16.362	
QD/D_58_4	8.103	8.057	
QF_58_4	10.637	10.576	

544 { X −1.5 mm
Y +1.0 mm a offset.

2007.4.26 C-band加速試験.

16:28 KEKB e⁻ 8.0 GeV ビームを設定.

SC-61-h. SC-61-A2 で 呼/E を小さくなるように. φSB

16:30 ビームくり返し 1Hz → 5Hz

Feedback を停止 (3-sector以降) orbit, energy.

BPM を 5-time average mode に

吉田氏の orbit correction program を起動 CC mode

16:36 Trigger timing の確認

	前回 3/22	→ 今回
KL-44	6409 (ns)	6409
〃 -phase	2750	2750
〃 -delay	2402	2379 → 2402にセット。
〃 -width	3227	3227
〃 -sb	177	177

E_s = 44.40 kV

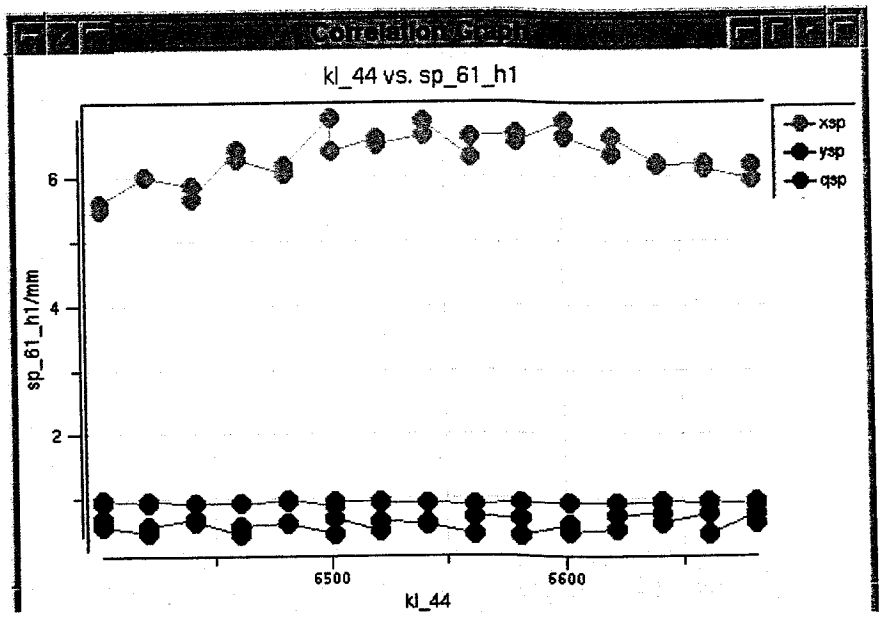
$P_{s-VSX-9}$ = 53.3 ~ 53.9

P_{s-PLC} = 41.3 ~ 41.8

16:48 Energy knob で sp-61-h1 を zero position に

16:50 4-4 STB → ACC

delay の optimize. 6409 → 6541



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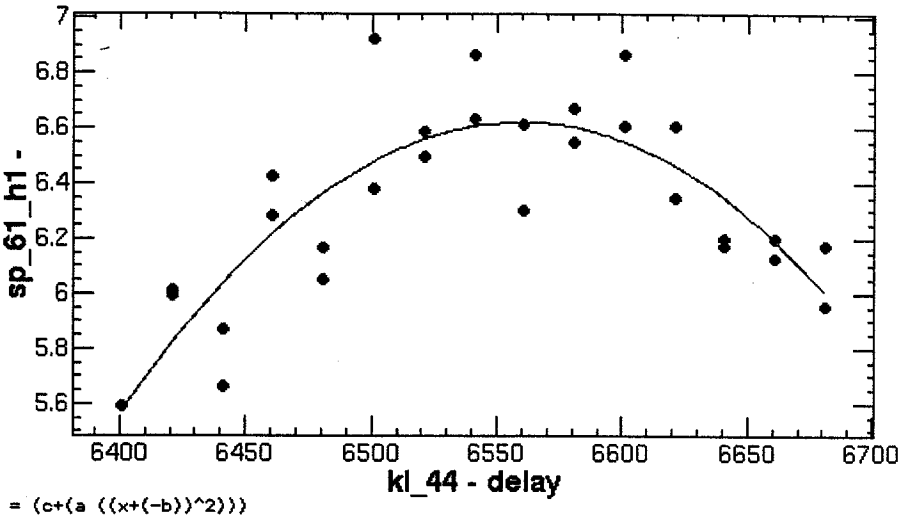
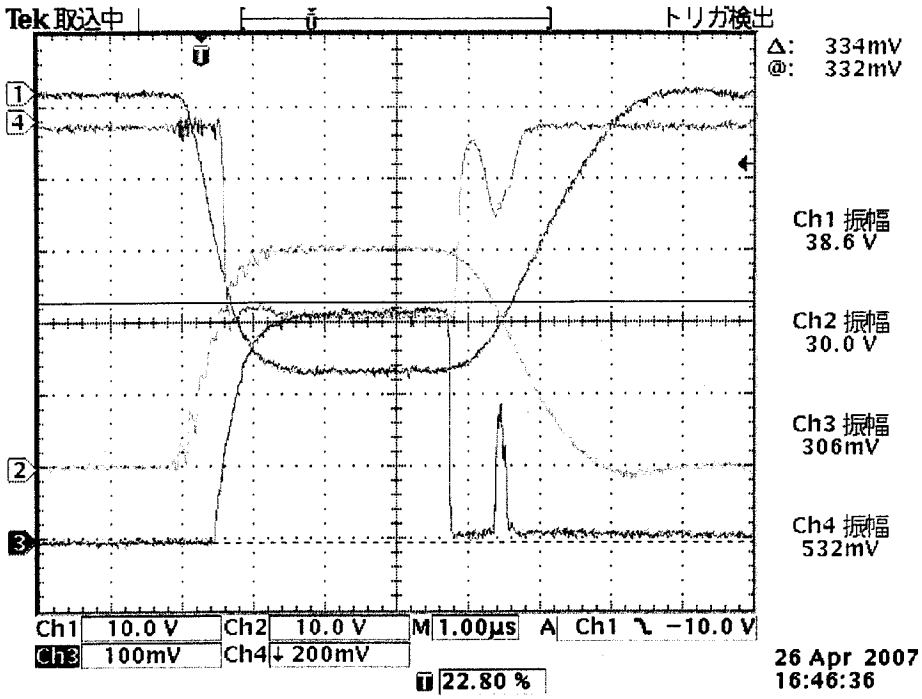
ChiSquare = 1.02335 Goodness = .46310

a = -4.2E-5 +/- 5.84E-6 b = 6559.55 +/- 5.64850 c = 6.62224 +/- .05462



Function = (c+(a ((x+(-b))^2)))



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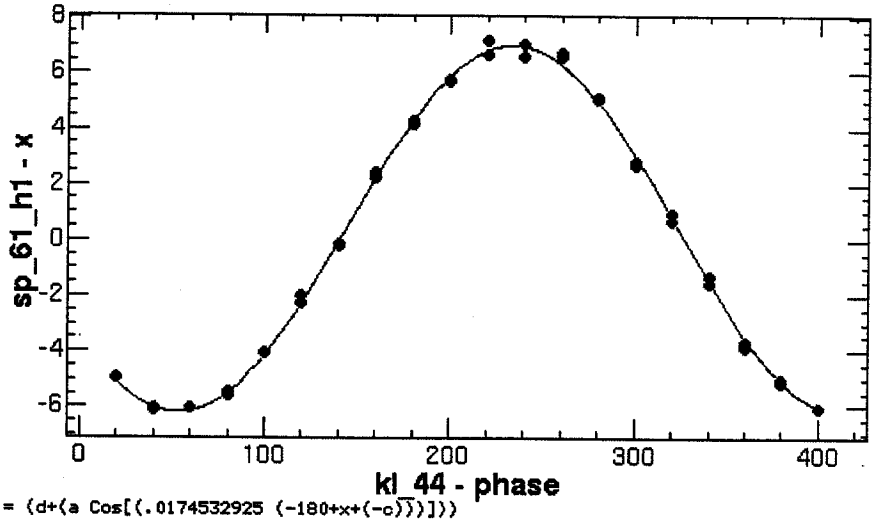
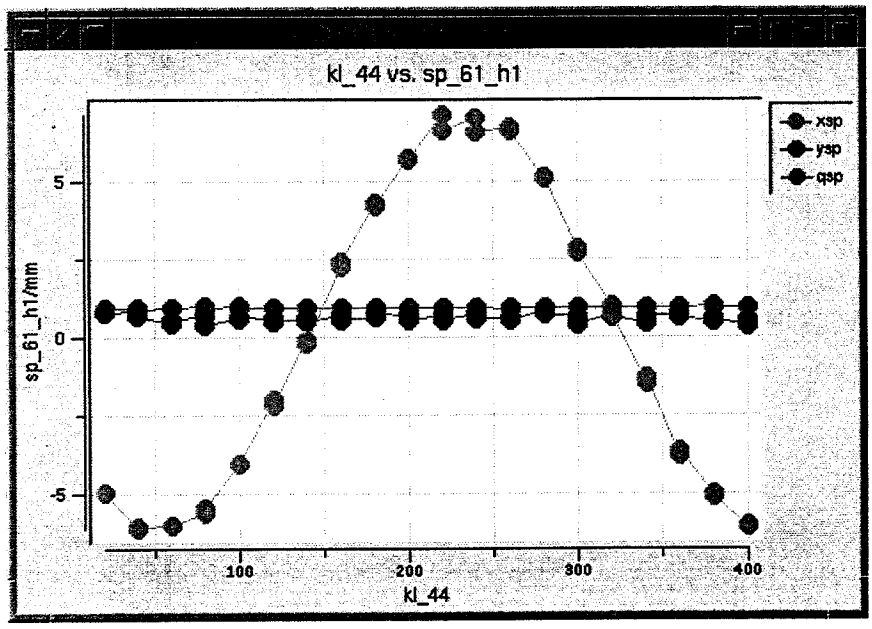
ChiSquare = 1.30544 Goodness = .46907

a = -6.6007 +/- .04112 c = 233.603 +/- .37817 d = .40104 +/- .02997



Function = (d+(a Cos[(.0174532925 (-180+x+(-c)))]))



$E_{gain} = \frac{6.6}{307.5} \times 8c$

$= 171.7$ MeV

$\frac{171.7}{0.96225 \times 4} = 44.6$ MV/m

計算では、 $22.62\sqrt{41.5} = 145.7$ MeV

$145.7 \times 1.08 = 157.4$ MeV

(8%増)

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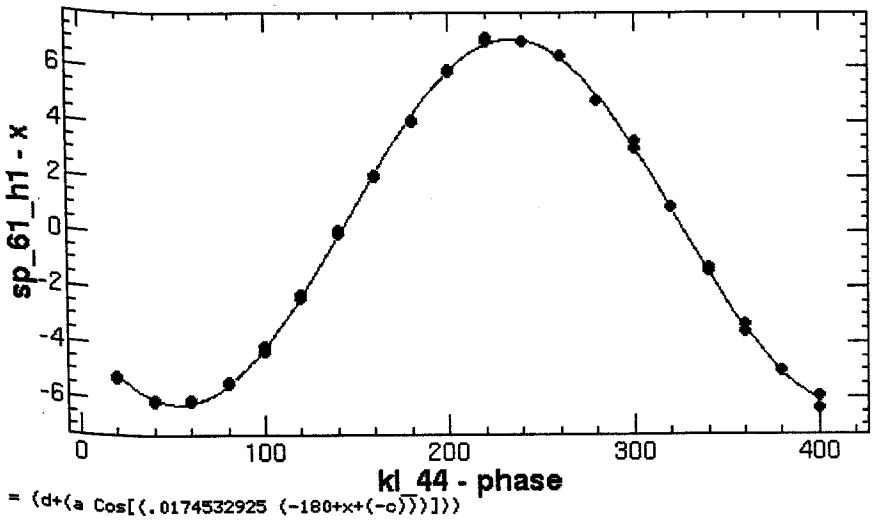
ChiSquare = .70553 Goodness = .46907

a = -6.6059 +/- .03025 c = 234.189 +/- .27763 d = .36064 +/- .02203



Function = (d+(a Cos[(.0174532925 (-180+x+(-c)))]))