

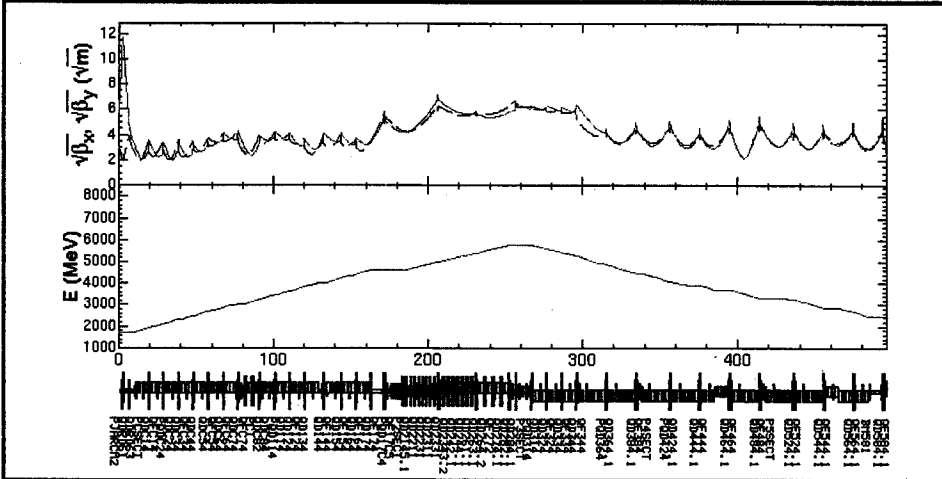
SABOT:

Vacdata

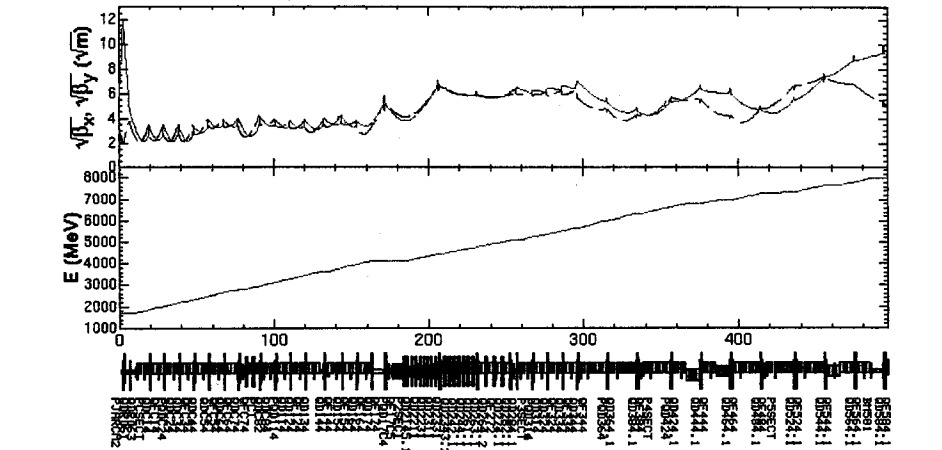
2006 12 12 18:31:38 2.5 GeV

19:21:29 8 GeV

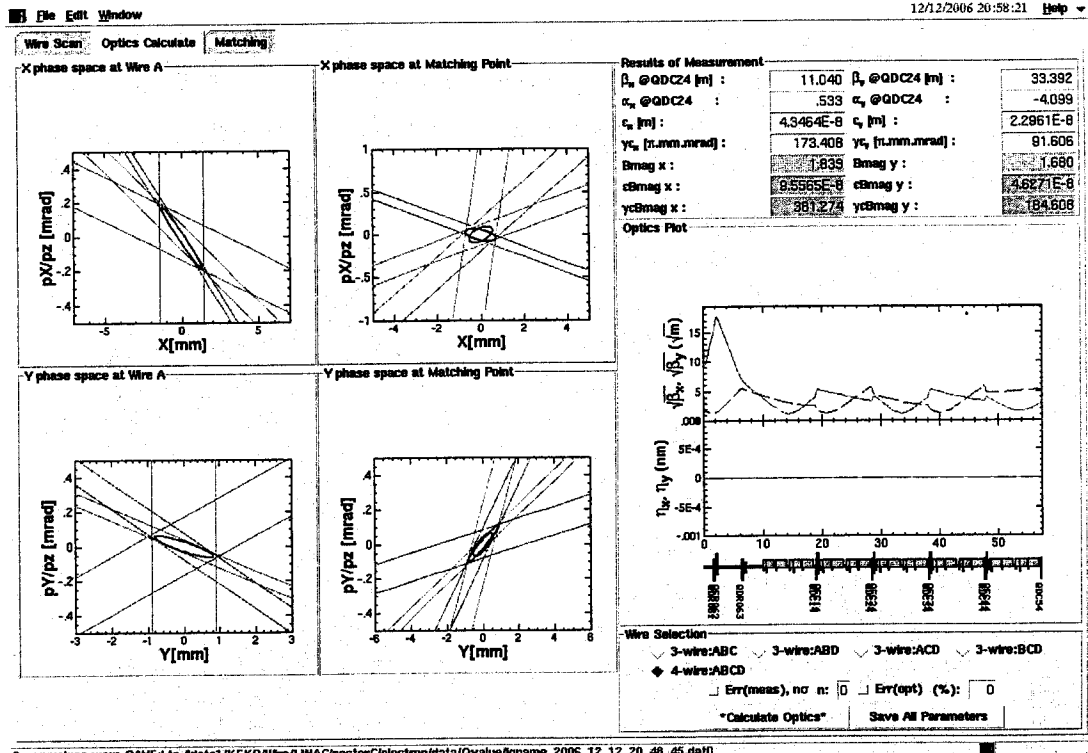
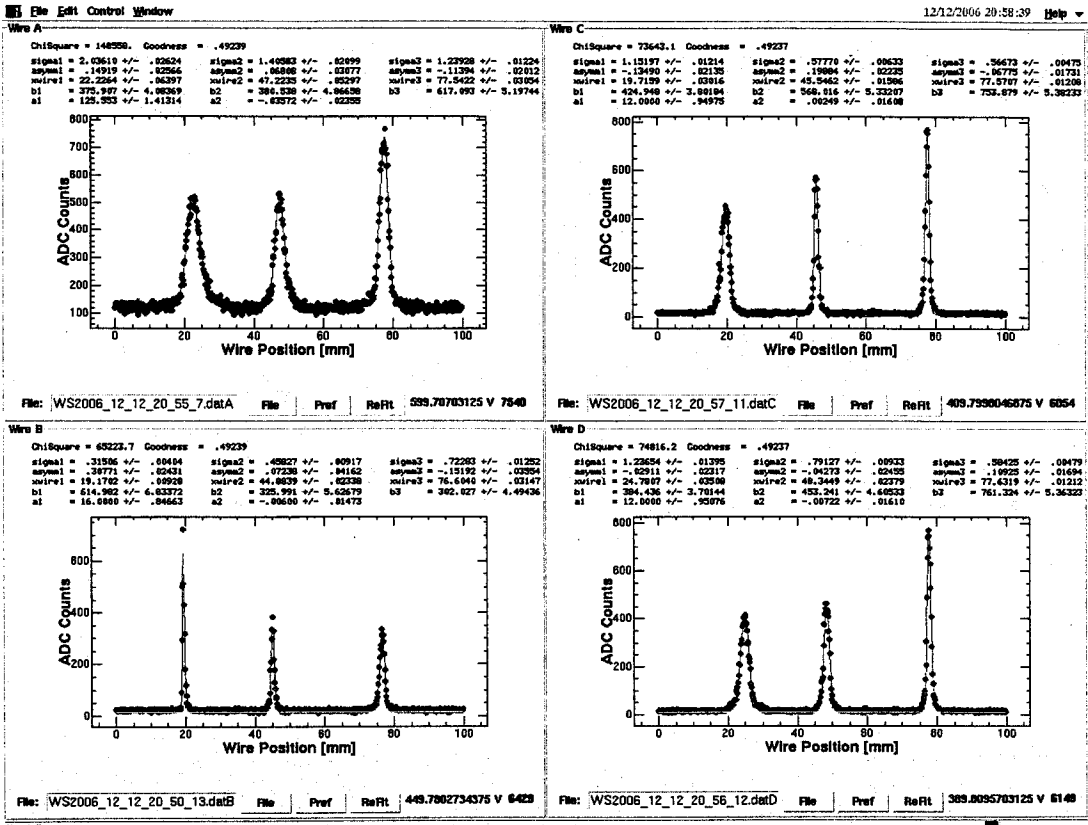
20:46:36 8 GeV



- Select Optics
- Set initial Twiss
- Read file(Ac)
- Read file(Qm)
- Plot



C277- Wire 測定

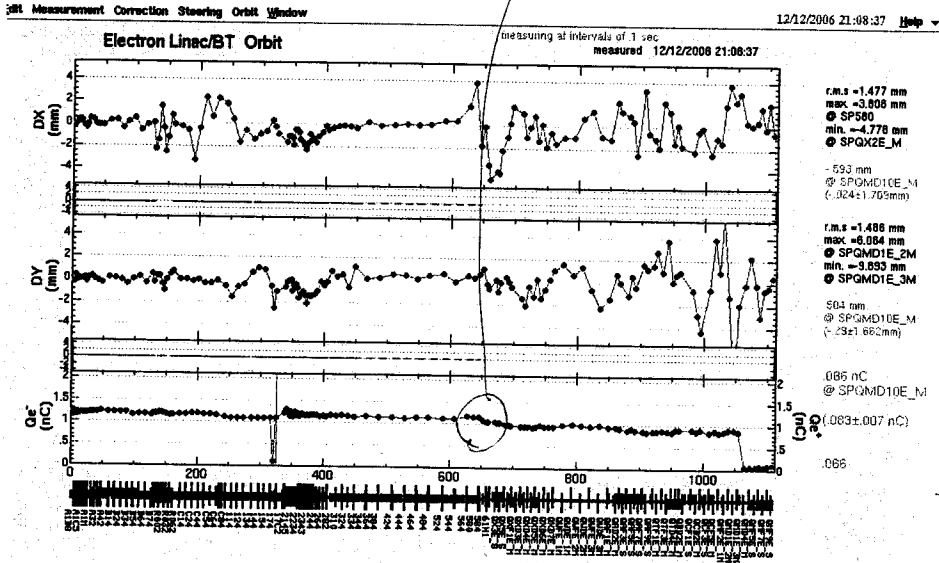


Omega values were SAVED to /data1/KEKB/Wire/LINAC/sector/CElectron/data/Qvalue/qname_2006_12_20_48_45.dat0

9:08

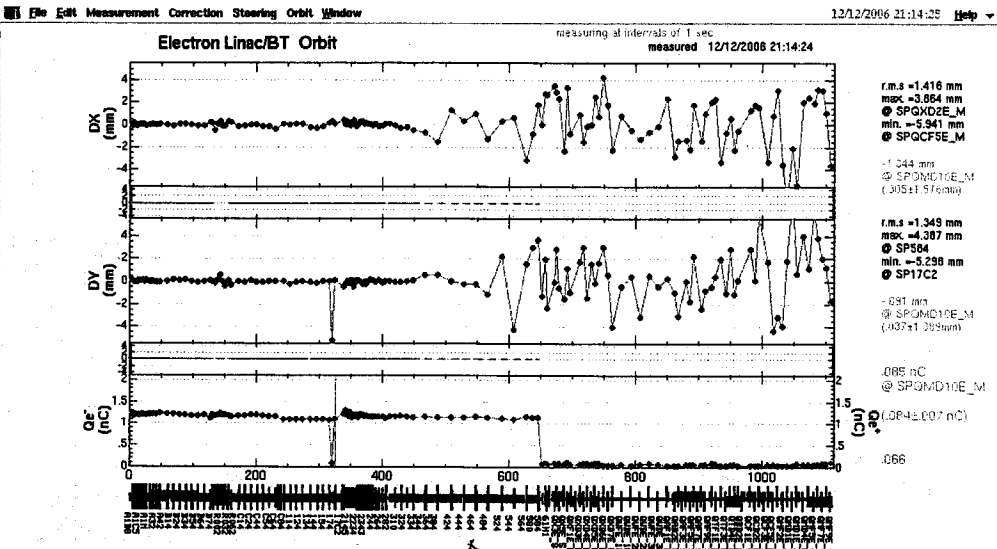
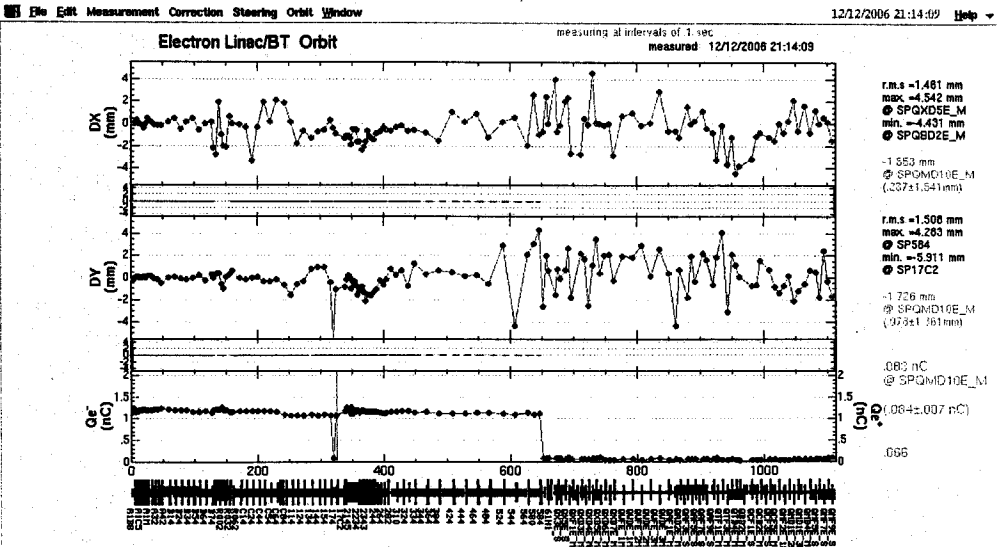
8GeV

117E 2の修正に見えてる?



→ ref 1 = M3.

2.5 GeV
(減速段階)



meas - ref.

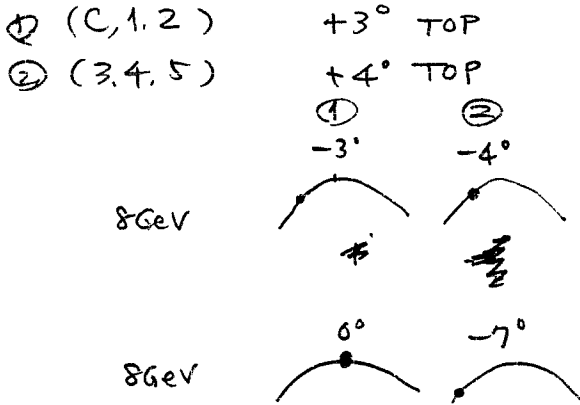
↑
0.085 nC

- HERに入射を試み, 1.5 mA/s @ 25 Hz. Noise 高い.
- P.SD. の時より悪い.
→ Matching をすると良さそうと思われた.

2006.12.20 (水)

12:05 KEKB e^-e^-u

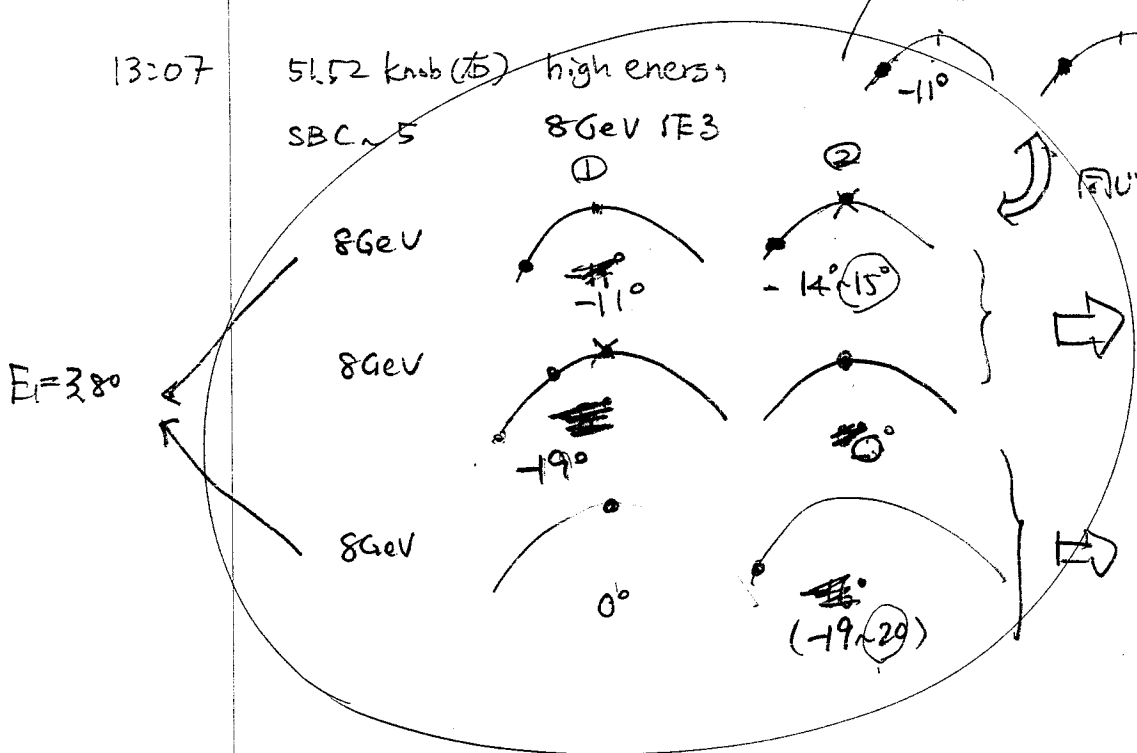
bpm ← x - 方向 high energy
QX2E 0mm — 8GeV



この phase からの data 1-100 あり

13:07

51.52 knob (右) high energy
SBC ~ 5 8GeV IF3



半本 2005- $T \neq$
 $\left\{ \begin{array}{l} E_1 = 2.9 \text{ GeV} \\ E_2 = 6.3 - E_1 \\ = 3.38 \text{ GeV} \end{array} \right.$
 $\left\{ \begin{array}{l} E_1 = 3. \text{ } \\ E_2 = 2.89 \end{array} \right.$

2006.12.12

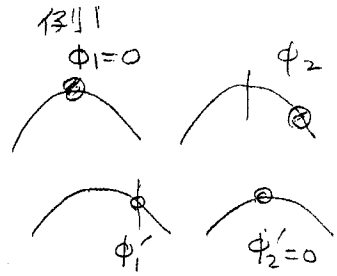
1
Y. Ogawa

Dispersion-Free Energy Gain 例1

二本の加速管が同位相の場合

$$E_0 = E_1 \cos \phi_1 + E_2 \cos \phi_2$$

$$E_0 = E_1 \cos \phi_1' + E_2 \cos \phi_2'$$



例1の場合

$$E_0 = E_1 + E_2 \cos \phi_2 \quad \textcircled{1}$$

$$E_0 = E_1 \cos \phi_1' + E_2 \quad \textcircled{2}$$

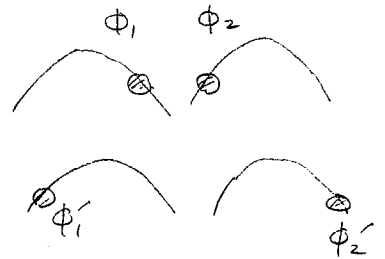
①②より E2 を消去

$$E_0 = E_1 \cos \phi_1' + \frac{E_0 - E_1}{\cos \phi_2}$$

$$E_1 (\cos \phi_1' \cos \phi_2 - 1) = E_0 (\cos \phi_2 - 1)$$

$$E_1 = \frac{1 - \cos \phi_2}{1 - \cos \phi_1' \cos \phi_2} E_0$$

例2



(且 $\phi_2 = \phi_1' + \pi$ の場合)

$$E_1 = \frac{1 - \cos \phi_2}{1 - \cos^2 \phi_2} E_0 = \frac{1}{1 + \cos \phi_2} E_0 = E_2$$

例2 (一般の場合)

$$E_0 = E_1 \cos \phi_1 + E_2 \cos \phi_2$$

$$E_0 = E_1 \cos \phi_1' + E_2 \cos \phi_2'$$

$$E_0 = E_1 \cos \phi_1' + \frac{E_0 - E_1 \cos \phi_1}{\cos \phi_2} \cos \phi_2'$$

$$E_1 (\cos \phi_1' \cos \phi_2 - \cos \phi_1 \cos \phi_2') = E_0 (\cos \phi_2 - \cos \phi_2')$$

$$E_1 = \frac{\cos \phi_2 - \cos \phi_2'}{\cos \phi_1' \cos \phi_2 - \cos \phi_1 \cos \phi_2'} E_0$$

具体的には γ -光子 1.7 GeV, LHC 粒子 8 GeV と 12

$$E_0 = 8.0 - 1.7 = 6.3 \text{ GeV}$$

E_1 は C-band (※ $\phi_1 \rightarrow 2\phi_1$)

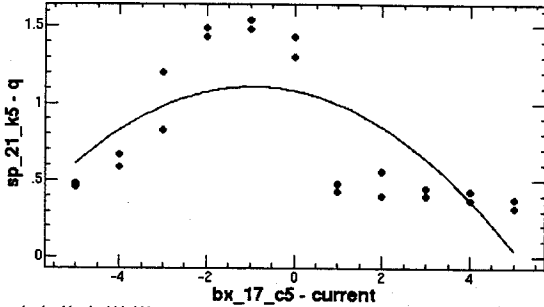
E_2 は 80 他 α 全 2 α 加速 $2 = \omega + (\omega \sim 5)$

SB-C へ SB-5 まで ϕ_2 同時共振

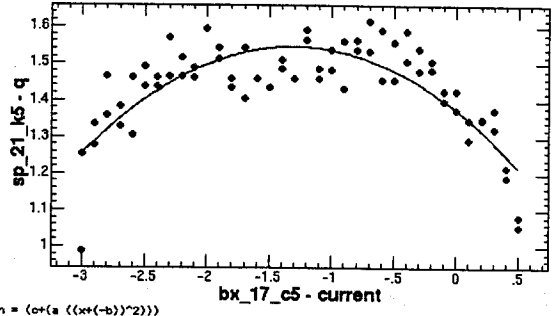
12/21(木) 11:03
 結果保持 screening scan
 Nominal
 BX-17-c5 - 1.05
 BX-17-4 - 0.729

林, 20.7
 BY-17-c5 - 1
 BY-17-4 +0.372

File Edit Window Step 1A 12/21/2006 11:09:23 Help
 ChiSquare = 2.14926 Goodness = .45684
 a = -.03032 +/- .00812 b = -.94674 +/- .45168 c = 1.10528 +/- .10517

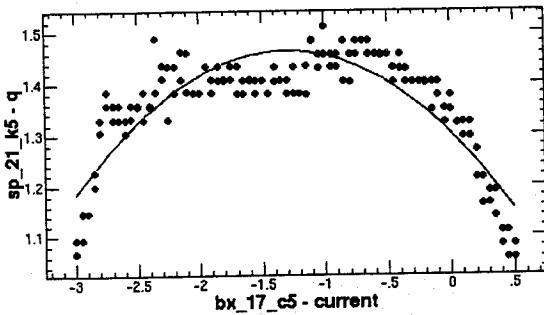


File Edit Window Step 0.1A 12/21/2006 11:15:13
 ChiSquare = .40618 Goodness = .47736
 a = -.10139 +/- .00938 b = -1.3067 +/- .04325 c = 1.54686 +/- .01356



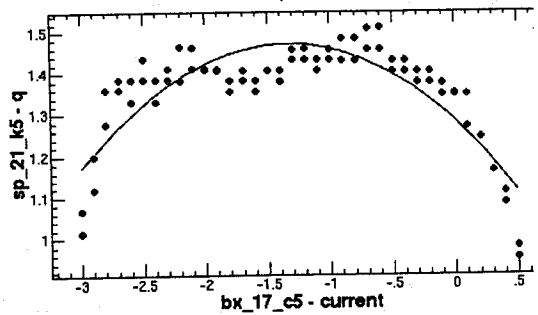
File Edit Window 12/21/2006 11:48:31 Help
 ChiSquare = .40865 Goodness = .49405
 a = -.09674 +/- .00485 b = -1.2994 +/- .02308 c = 1.46373 +/- .00682

平均5回 0.05A step



File Edit Window 12/21/2006 11:40:2
 ChiSquare = .29885 Goodness = .47736
 a = -.10725 +/- .00804 b = -1.3302 +/- .03532 c = 1.47060 +/- .01

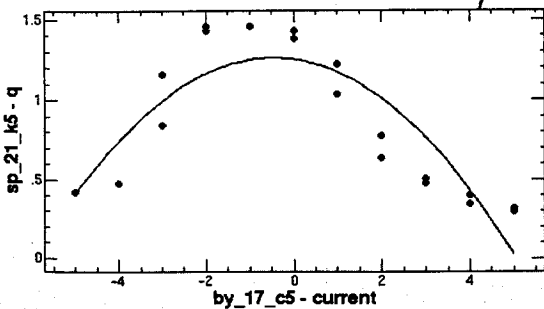
平均5回 0.1A step



Hard Copy

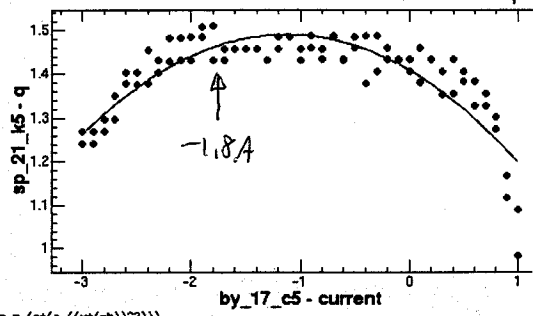
File Edit Window BY 17c5 scan 12/21/2006 11:53:08 Help
 ChiSquare = 1.01896 Goodness = .45684
 a = -.04161 +/- .00539 b = -.47418 +/- .19814 c = 1.26321 +/- .07402

1A step



File Edit Window 12/21/2006 11:58:
 ChiSquare = .19757 Goodness = .47884
 a = -.06449 +/- .00441 b = -1.1236 +/- .03719 c = 1.49068 +/- .01

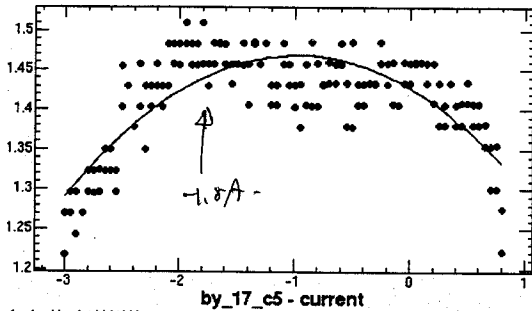
平均5回 0.1A step



dit Window 12/21/2006 12:06:14 Help

ChiSquare = .22364 Goodness = .48469
 a = .00281 b = -.97667 +/- .03300 c = 1.46853 +/- .00463

平均 5回 step 0.05A



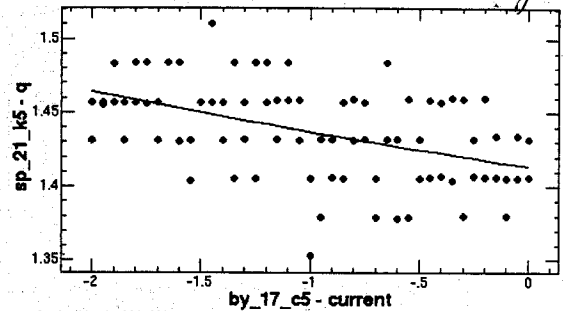
Function = (a*((x+(-b))^2))

Main Application Area

File Edit Window 12/21/2006 12:15:10 Help

ChiSquare = .06654 Goodness = .47894
 a = .00210 +/- .01025 b = 5.04872 +/- 29.5131 c = 1.35995 +/- .37278

0.05 of q



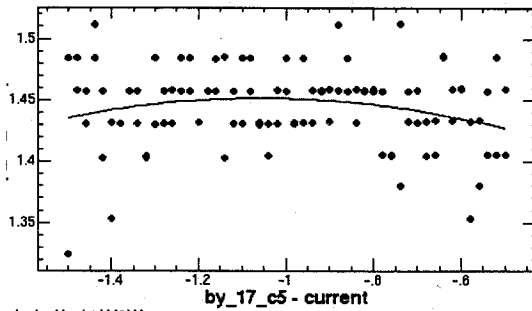
Function = (a*((x+(-b))^2))

Main Application Area

dit Window 12/21/2006 12:22:35 Help

ChiSquare = .10503 Goodness = .48110
 a = .00163 b = -1.0522 +/- .07417 c = 1.45156 +/- .00479

平均 5回 step 0.02A



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

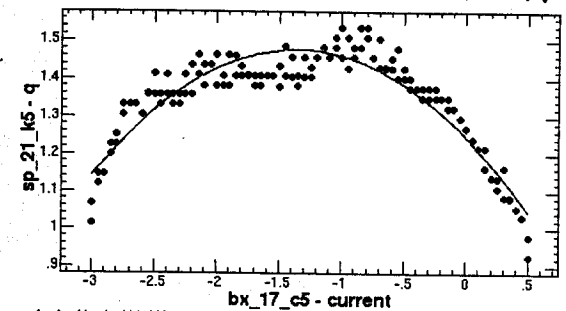
Main Application Area

File Edit Window 12/21/2006 12:34:31 Help

ChiSquare = .32342 Goodness = .48405
 a = -.12510 +/- .00431 b = -1.3624 +/- .01626 c = 1.47770 +/- .00605

BY-17-C5 -1.001 → -1.801A 2 測定

0.05A



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

Hard Copy

07.1.12

紙谷 飯田 小川 草野 牛本

11:00

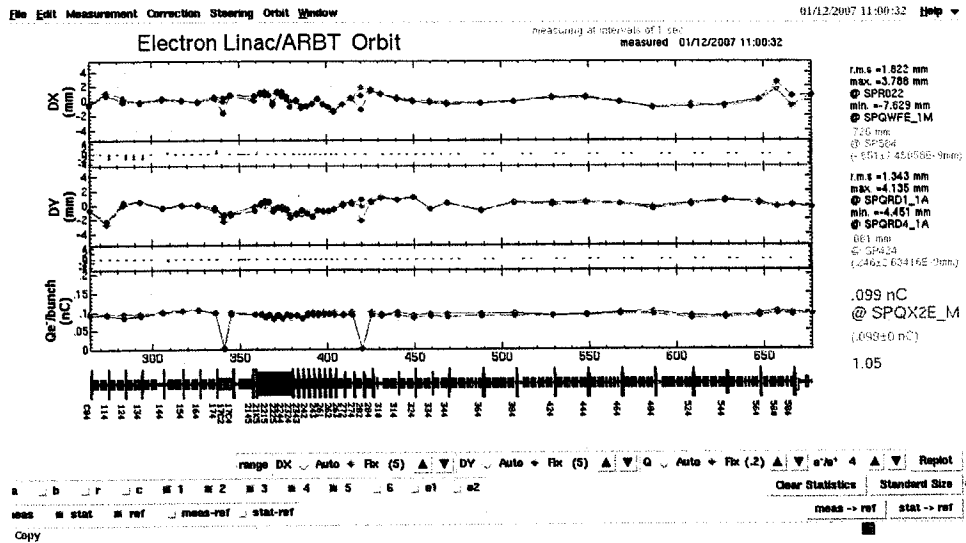
AR \checkmark \rightarrow Alignment check.

H.2

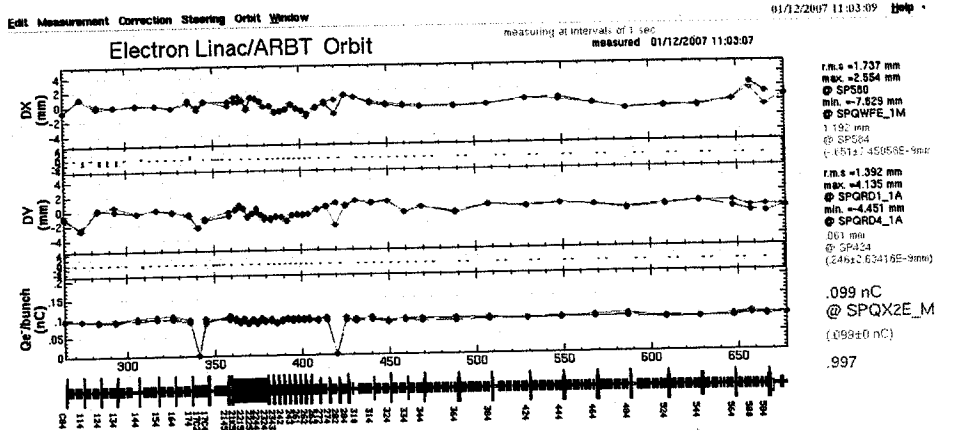
SX-53-1 1F. -2.2 A かけた。+側には可なり。

とやると、-2.2 A かけた。軌道は可なりで済む。

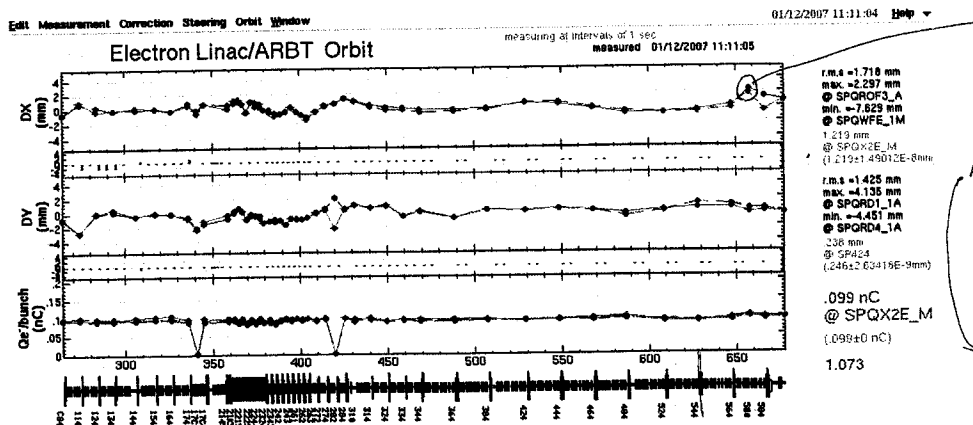
SX-57-1 Σ ϕ A にして軌道は可なりで済む。



Q544, Q564 Σ ϕ (4台)



SX-53-1 = -1 A 以外の VST にも ϕ = \rightarrow 電子的なものには全て ϕ にして



58-2 の修正値を $\Delta x = 2.15$ offset としていた。(06/9/20)
これは 564 の Alignment が 1F 状態で測定したのを言っていた。
3rd quad BPM の Σ の 2.15 offset は Cancel されていた (-0.47)

11:35

PFのparameterをLoadす

PFへのBeamが通らぬ → Quad BPMの後に行きかえに。

まず、2.5GeVに合わせたことす

ECSを2.5GeVにL2 1回ループ (Energy(GeV) = 3.308 GeV)

QD584, QF584 へ SC-61-H上のBeam ^{大型} 小さくす調整す。

SC-61-H 区間の BPM で

Positionがφになるように、Iを調整す。

12:20 PFに曲げて24)は、全く通らぬ。

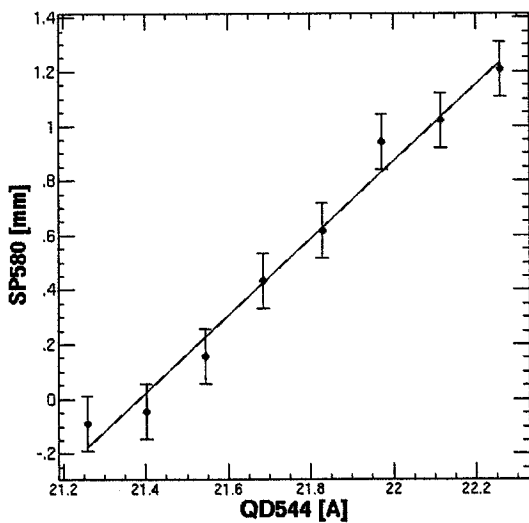
12:30
位

Quad BPM SP544, 564, 580 の Horizontal
時刻があるはず 524 もあり。

Window

01/12/2007 13:18:19 Help

Help



Condition: 02 Help Help Help Help

BPM to be Calibrated: SP544

Direction: Horizontal Vertical

Used Components:

BPM:	SP544				
Steering:	{{"SX533",1}}				
from:	-233,1}}		1}}	33,1}}	
to:	0	-2	-2	-2	0
number:	4	0	0	0	4
Q magnet:	QD544				
from:	-5,	4	4		-5
to:	-5	-5	-5	-5	5
number:	8	5	5	5	8

next remem. save save save save save

GO STOP READ save save save save save save save

Display BPM: SP580 Steering step: 1

Result:

When the beam is at the Q center:

BPM reading [mm]:	.3633E	center:	ter:	enter:	.3633E
error [mm]:	.0394E	.3633E	.3633E	.3633E	.0394E
Last BPM taken into account:	SP580	.0394E	.0394E	.0394E	.0394E

rel. curr. thresh.: .0E

Fit Chk I Save Save Save Save Save Save

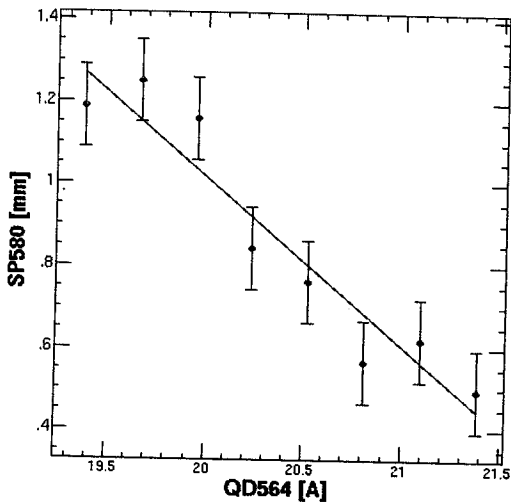
rea

• BPM offset の変更

SP564
 X_0 offset : 0.7013 \rightarrow 0.3379
 (-0.36336)

SP564
 X_0 offset : -0.67911 \rightarrow 0.62975
 (+1.30889)

it Window



01/12/2007 14:41:18 Help Help P help

Condition
 BPM to be Calibrated :
 SP564

Direction :
 Horizontal Vertical

Used Components :
 BPM : SP564
 Steering : {{"SX553",1}}
 from -1.5 1.5
 to 0 0
 number 4 4

Q magnet: QD564
 from -1 -1
 to 1 1
 number

next remem. save

GO READ

Display
 BPM : Steering step :
 SP580 1

Result
 When the beam is at the Q center :
 BPM reading [mm]: -1.30889 189
 error [mm]: .05603 103

Last BPM taken into account :
 SP584

rel. curr. thresh. : .05 .05

Fit Chk I Save