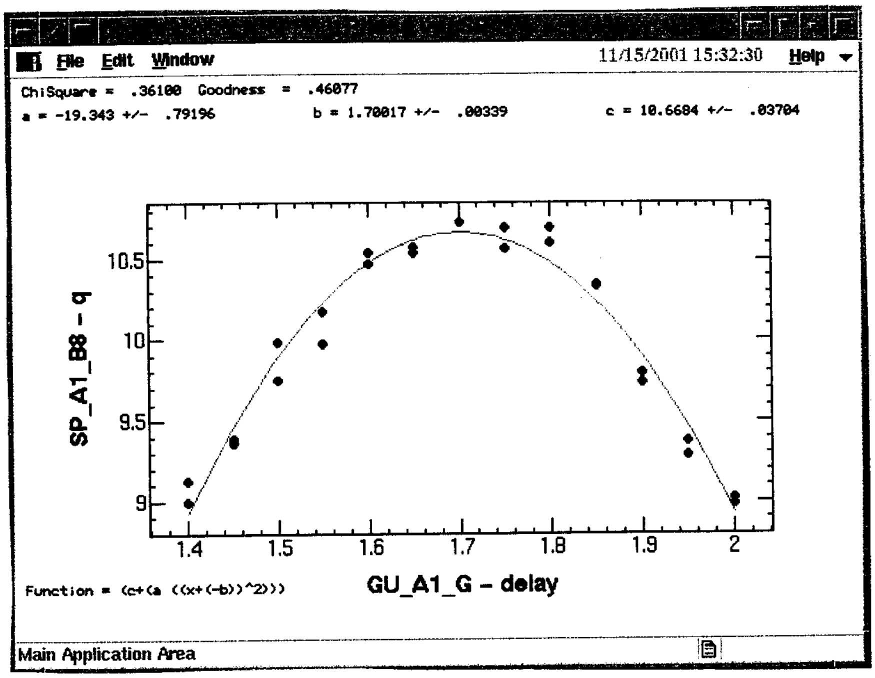
11:58 運転値へ戻す　Gun No.4
tns: 142 dely-all data

12:06 終了.

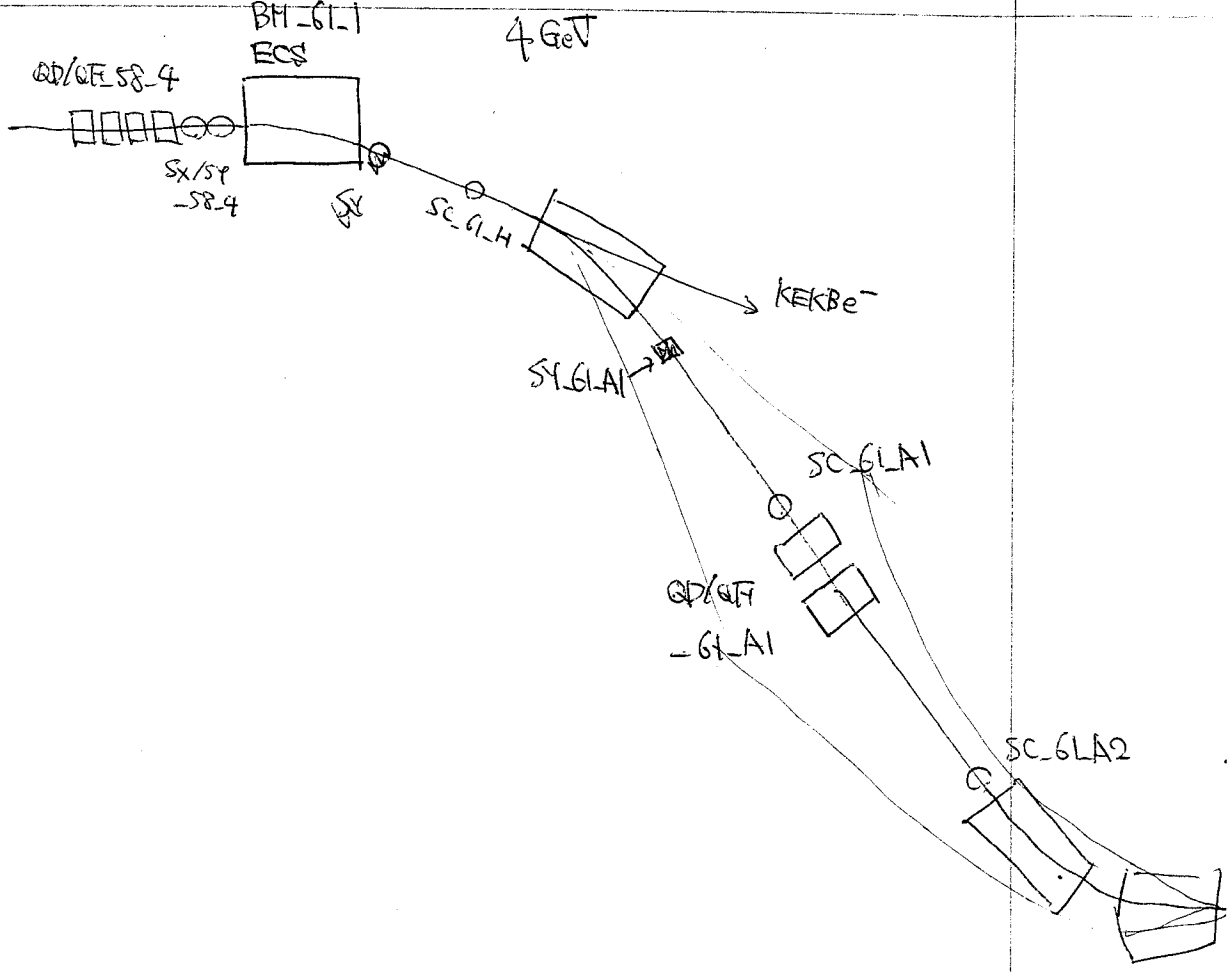
放射線室より（高橋氏）
2バンチ加速(50Hz)の施設内検査OKの連絡あり

2001.11.15　e+ ビーム



• Channeling 実験のための 4GeV, 6GeV ビーム調整

6



Beam Study of 4.0 GeV e- beam for Channeling Experiment

(0) Setting electron beam intensity to be 0.2 nC/pulse

Load GUN setting parameter for 0.2 nC.

(1) Setting BM_61_1 (ECS BM) to be 4.0 GeV

Calculate the supply current for 4.0 GeV
with mgc2f and mgf2c command.

BM_61_1: 366.3 A => 1.41604 Tesla => 8.0048 GeV

To Set 4.0 GeV => 0.70802 Tesla => 177.793 A
(In reality, 177.778 A due to DAC digitization.)

(2) Setting Beam Energy to be 4.0 GeV

By observing the beam position on SC_61_H,

SB_5 phase : KEKB e- operation value + 180 degree : 108.9 -> 288.9
SB_4 phase : KEKB e- operation value + 180 degree : 81.6 -> 261.6 degree
Energy knob (KL_51, KL_52) : -> On Crest

(3) Setting BM_61-A1 to fit for 4.0 GeV

By observing the beam position on SC_61_A1

Set BS_61-A1 : -0.842 A -> 0.0 A
Set BM_61_A1 : 0.0 A -> ~~95.189~~ 92.894 A

(4) Setting Optics value for 4.0 GeV

Even with KEKB e- operation value, no Beam loss and so-so spot size at Sect-5.
Ohnishi optics parameters were Set.
Manual matching to have moderate spot shape,
(normal operation optics is matched to BT line, but not good for 5-sect.)

(5) Minimize energy spread

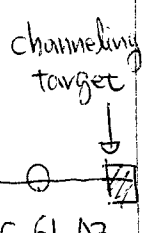
SB-B phase : del = +4.0 degree
SB_4 phase : KEKB e- operation value + 172 degree
SB_5 phase : KEKB e- operation value + 170 degree
(Crest del_SB_4 = 190 deg, del_SB_5 = 170 deg)

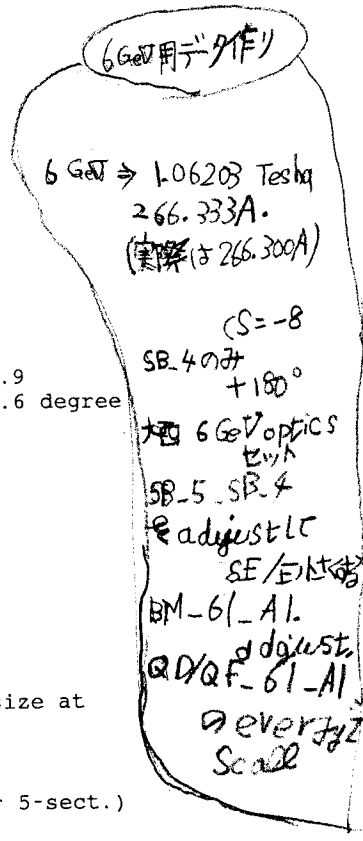
(6) Adjust beam energy

KL_38 : change from ACC -> Stand-by
Adjustment with Energy knob (KL_51, KL_52)

(7) Adjust spot size on SC_61_A1, A2, A3 and Achromatic condition

By QD/QF_61-A1 (and QD/QF_58_4)





2001 Jan/5 Chan Exp Beam パラメター設定.

Kly 5-5, 5-6 stby
Kly 3-6 stby → acc

BT data 1120.all
φ data 365-phase.all
入射部 010920-0.2nC

Kly φ 設定が違っていたので (AGから復帰して) periodical で
road する → 01050831.phase.all

RC Energy Feedback minimum current 0.3 → 0.1nC
KEKB e⁻ Energy FB gain 0.01 → −0.01 に変えた。
RX Orbit FB 0.3 → 0.1 nC minimum 値.

SB4, SB5 Δφ = −180° (その φ は KEKB e⁻ のもの)

Kly_51 STDBY → Acc へ変更した

0:10 ΔE/E at J-arc を改善する

φSB_A = 105.7°
φSB_B = 143.2° +4.0° → 147.2°

ΔE/E at SC_6LH を改善する

φ
φSB_5 = 288.9°
φSB_2 = 88.2° −15.0° = 73.2°

φKL_51 = 131.8

Gun Delay 調整

4.896 → 4.820 (ns)

BH_61_1 なぜか 192.552 A 4.3328 GeV になっている?

1回 Loopを回したら、上から 177.793A

BH_6L_V6.

Energy 高すぎるので、KL_38 を STDBYにする. 前回もそうしていたはず
KL_39 も STDBYにする

0:55 Energy Knob で SC_61_H で まん中に
SC_6LA1, A2, A3 で スポット位置, 形状 OK

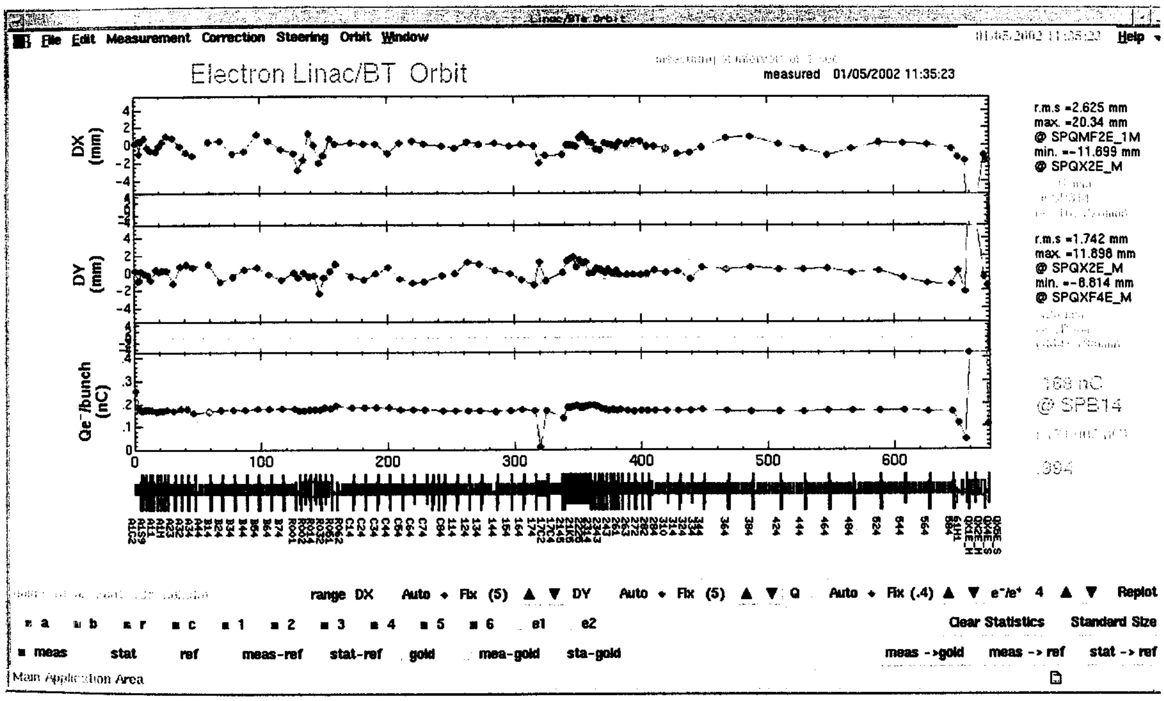
1/205 Emittance Measurement.

BT / Wire Scanner / Matching for Simada-san.

Kly 5-8 ACC → Stby

4 GeV Optics [illegible] 計測を試みる.

ch A	700 V	MaPP	~1200 cnts
ch B	700 V		~1300 cnts
ch C	750 V		~1000 cnts
ch D	800 V		~900 cnts

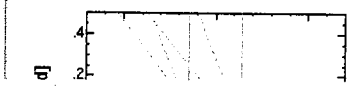


File Edit Window

01/05/2002 11:23:14 Help

WireScan Optics Calculate Matching

X phase space at Wire A



X phase space at Matching Point

Results of Measurement

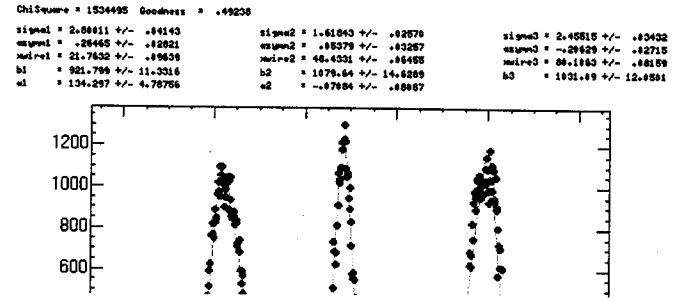
β_x @BM611 [m] :	18.082	β_y @BM611 [m] :	10.202
α_x @BM611 :	-.142	α_y @BM611 :	-.166
ε_x [m] :	1.1902E-7	ε_y [m] :	1.1745E-7
$\gamma\varepsilon_x$ [π.mm.mrad] :	964.066	$\gamma\varepsilon_y$ [π.mm.mrad] :	951.318
Bmag x :	1.494	Bmag y :	1.554

Optics Plot

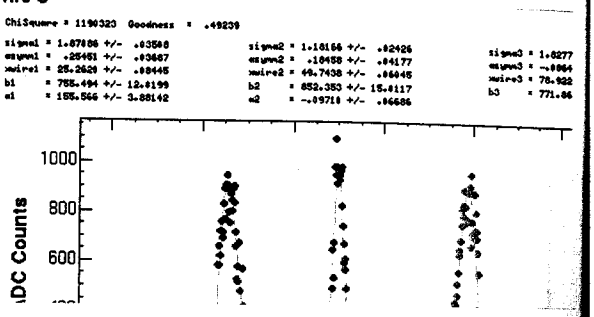
File Edit Window

01/05/2002 11:21

Wire A



Wire C



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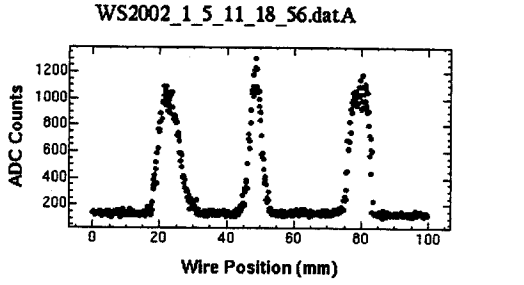
01/05/2002 11:21:20 Help

WireScan Optics Calculate Matching

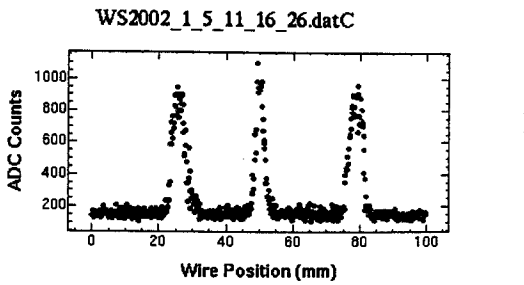
Channel A



Current Wire Position = 0 mm

Start Fit Wire->0

Channel C

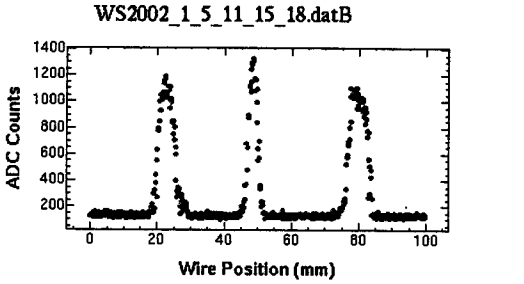


Current Wire Position = 0 mm

Start Fit Wire->0

1 Hz
5 Hz
10 Hz
25 Hz
50 Hz

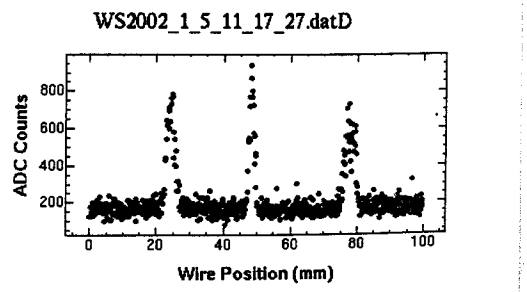
Channel B



Current Wire Position = 0 mm

Start Fit Wire->0

Channel D



Current Wire Position = 0 mm

Start Fit Wire->0

Qmag values were SAVEd to /data1/KEKB/Wire/LINAC/sector5/KEKBe/data/Qvalue/lqname_2002_1_5_11_4_10.dat0

2002. Jan. 6

22:00

Channeling 実験用 8GeV ビーム調整.

Jan. 4 at 17:00頃の 放射線検査時の パラメータ (Mag. Phase. STDBY) を基にする.

但し. BM_61_A1 = 190.623 A.
BS_61_A2 = −9.331 A
BS_61_A3 = −7.026 A
ST_61_A2 = 0.900 A に変更。→ 1.420.

QD_58_4 = 52.938 → 54.330
QF " = 52.996 → 40.762
QD_61_A1 = 9.538 → 10.085
QF → 9.632.