

KEKB Shift Report Date : 2007/12/3(Mon)

Day Shift : Suwada (K); Tanaka, Noguchi, Asai (M); Nozaki(B)

Simplex downhill scan continued & MS

Planned menus

1. Downhill-simplex scan
2. MS: Demonstration of a 100-bunch fill pattern

Peak \mathcal{L} / G-Ratio : **13.586** $\times 10^{33}$ **cm⁻²s⁻¹** / **90** %

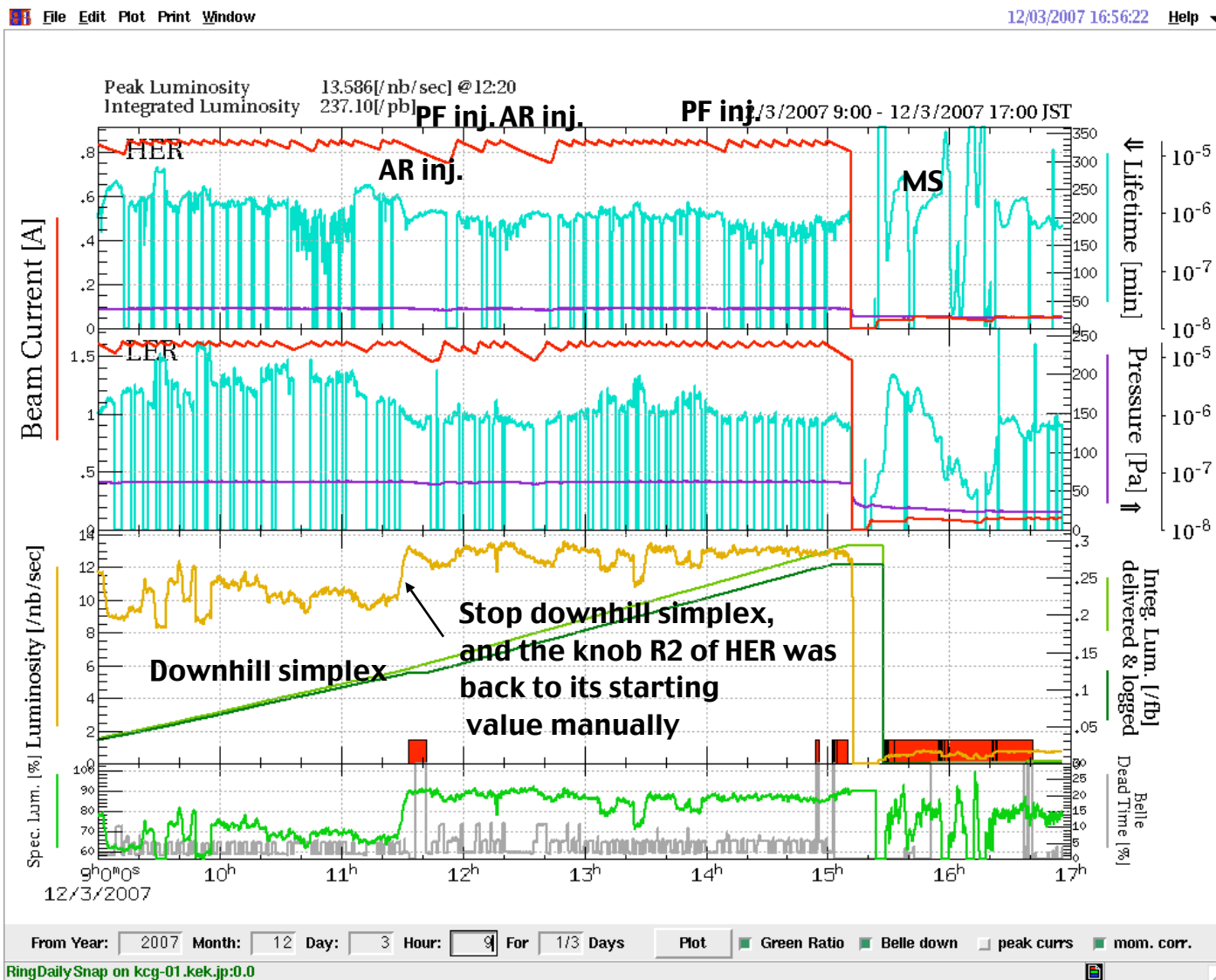
Shift \mathcal{L} / Day \mathcal{L} : **237.2** **pb⁻¹** / **- pb⁻¹**

Beam Current : LER **1620** mA / HER **850** mA

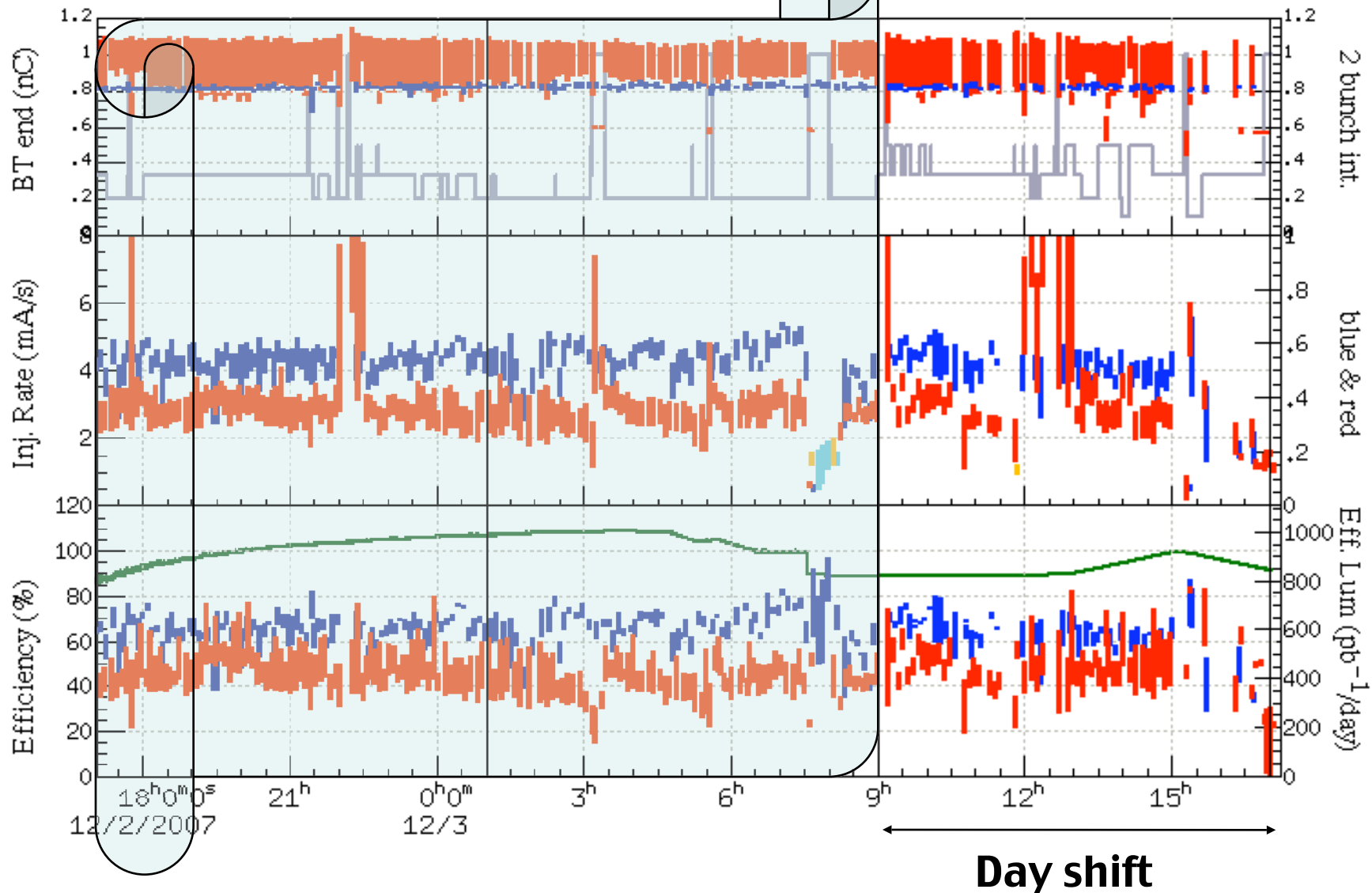
Fill pattern : 3.06 spacing, 1 trains, 1584+1 bunches

Aborts : LER_{only} : **0** / HER_{only} : **0** / Both : **0**

Shift Summary



Injection Summary



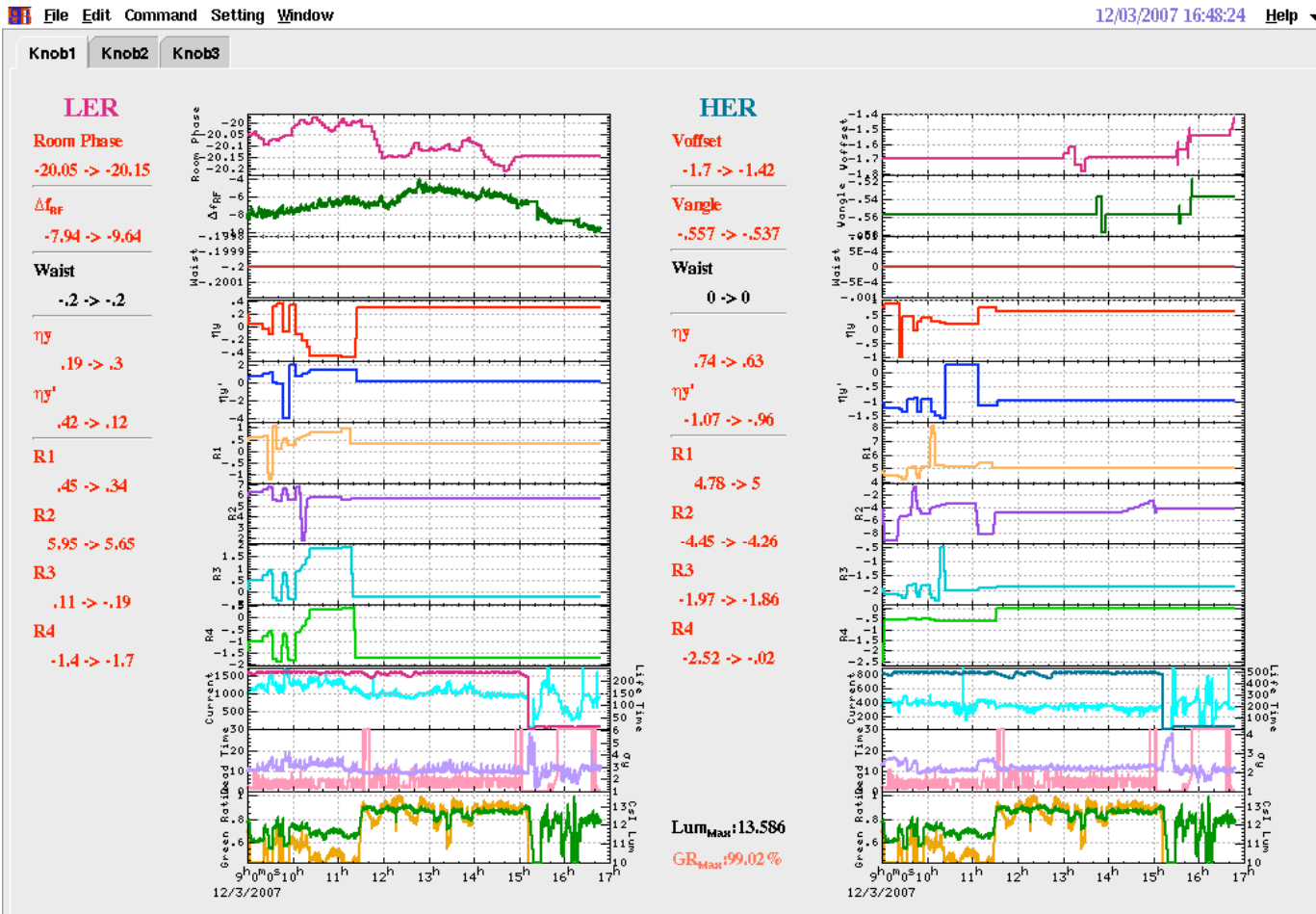
Tuning Items

- iBump (collision orbit adjustments, vertical offset/angle)

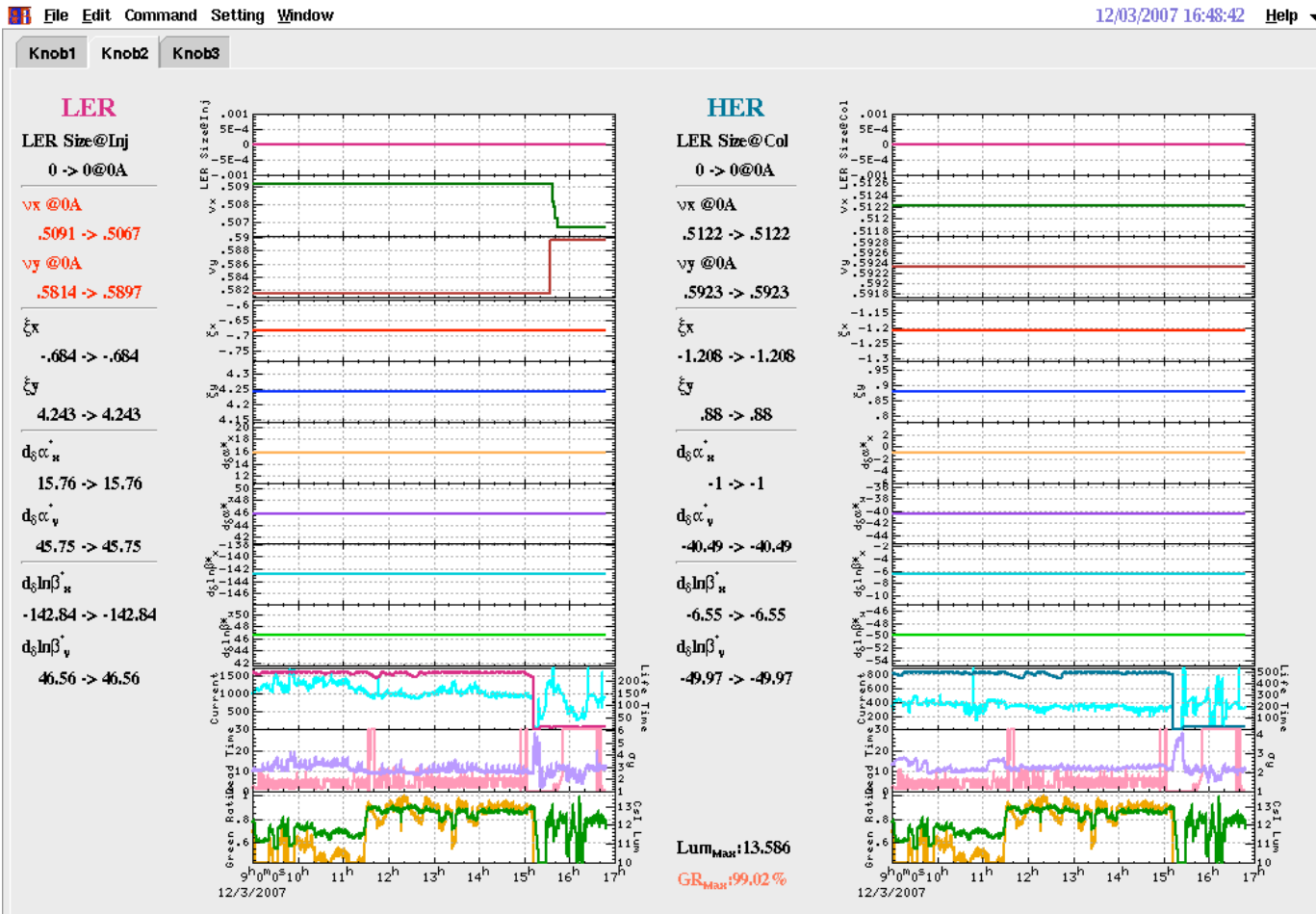
	LER	HER
R_1		
R_2		
R_3		
R_4		
η_y^*		
$\eta_y^{*'} $		
η_x^*		
$\eta_x^{*'} $		
R_{bump}		

Downhi

Knob 1

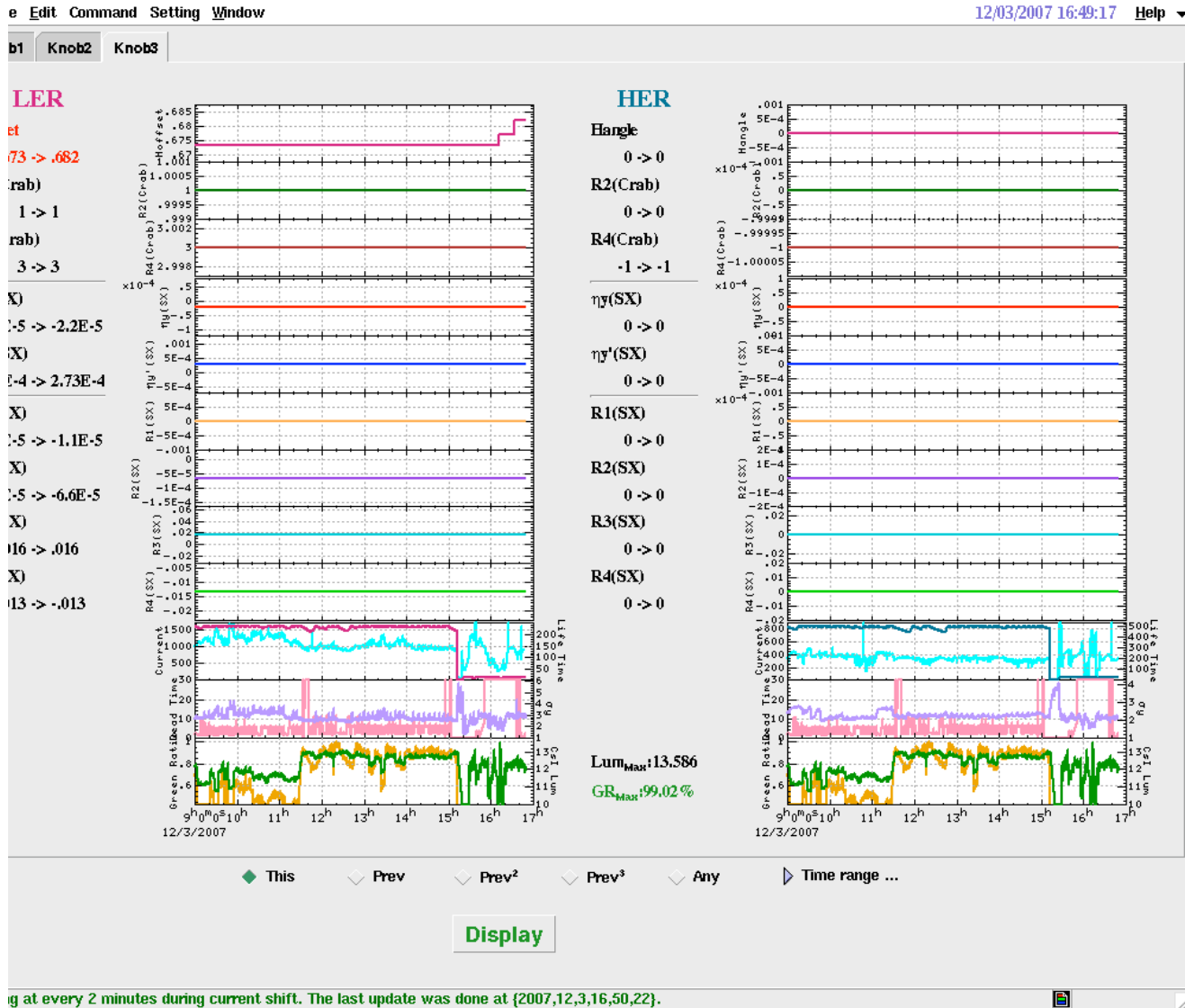


Knob 2



Updating at every 2 minutes during current shift. The last update was done at {2007,12,3,16,48,58}.

Knob 3

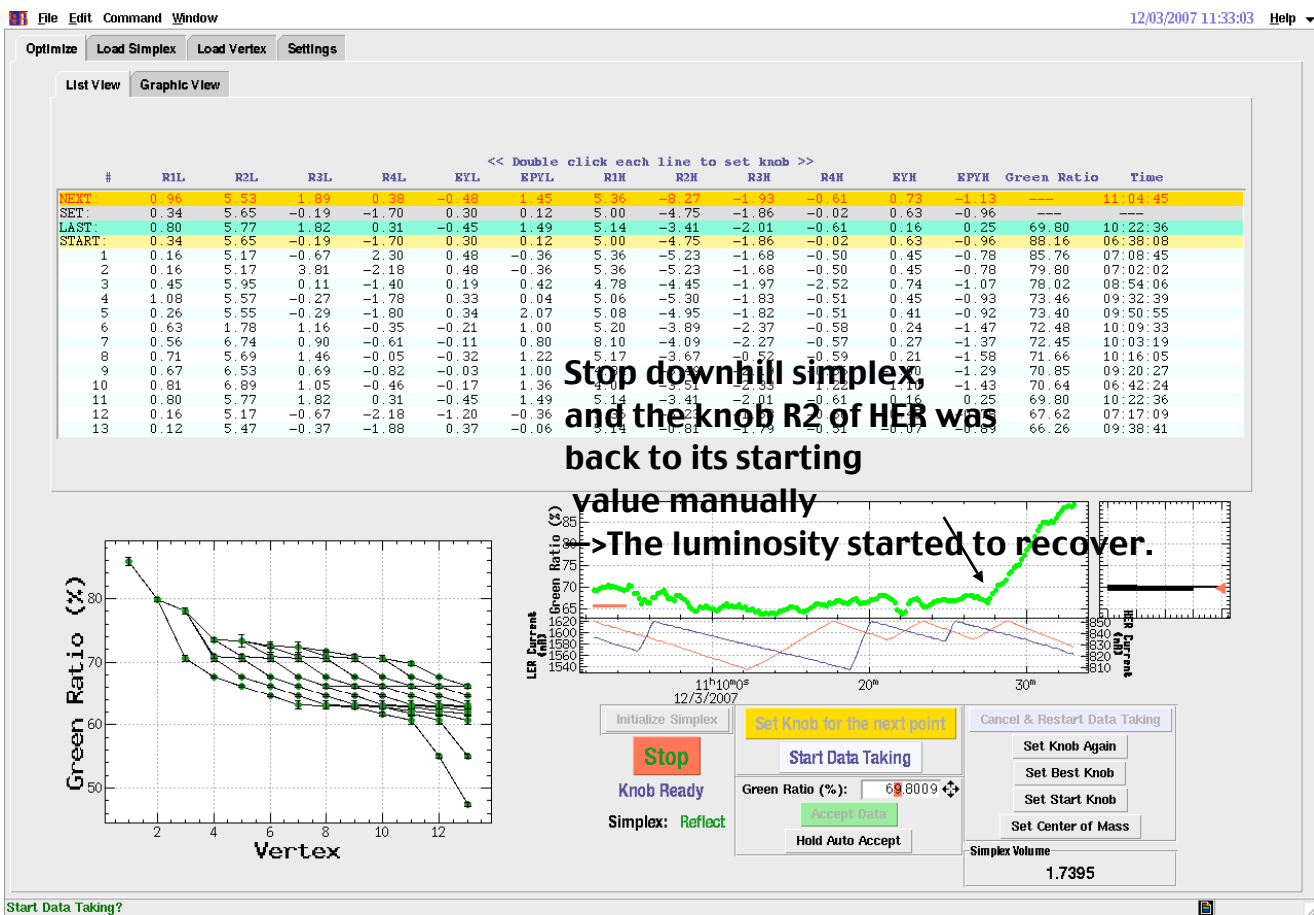


Troubles

14:35 Alarm: LER Septum Right Temp.

Comments or opinions on operations

1. The present downhill simplex is frequently trapped around a local minimum in luminosity. It seems that this method needs more trainings.



END

KEKB Shift Report Date : 2007/12/3(Mon)

Evening Shift :Egawa,Tobiyama (K) M.Tanaka,Fuke(M) Tamai(B)

Few bunch collision / resume to high current

Plans

1. Few bunch collision (until 21:30)
2. Resume to normal collision (21:30 ~)

Peak \mathcal{L} / G-Ratio : **13.624** $\times 10^{33}$ $\text{cm}^{-2}\text{s}^{-1}$ / **~91** %

/ G for 99+1 bunches / **~100** %

Shift \mathcal{L} / Day \mathcal{L} : **122.5** pb^{-1} / **610.6** pb^{-1}

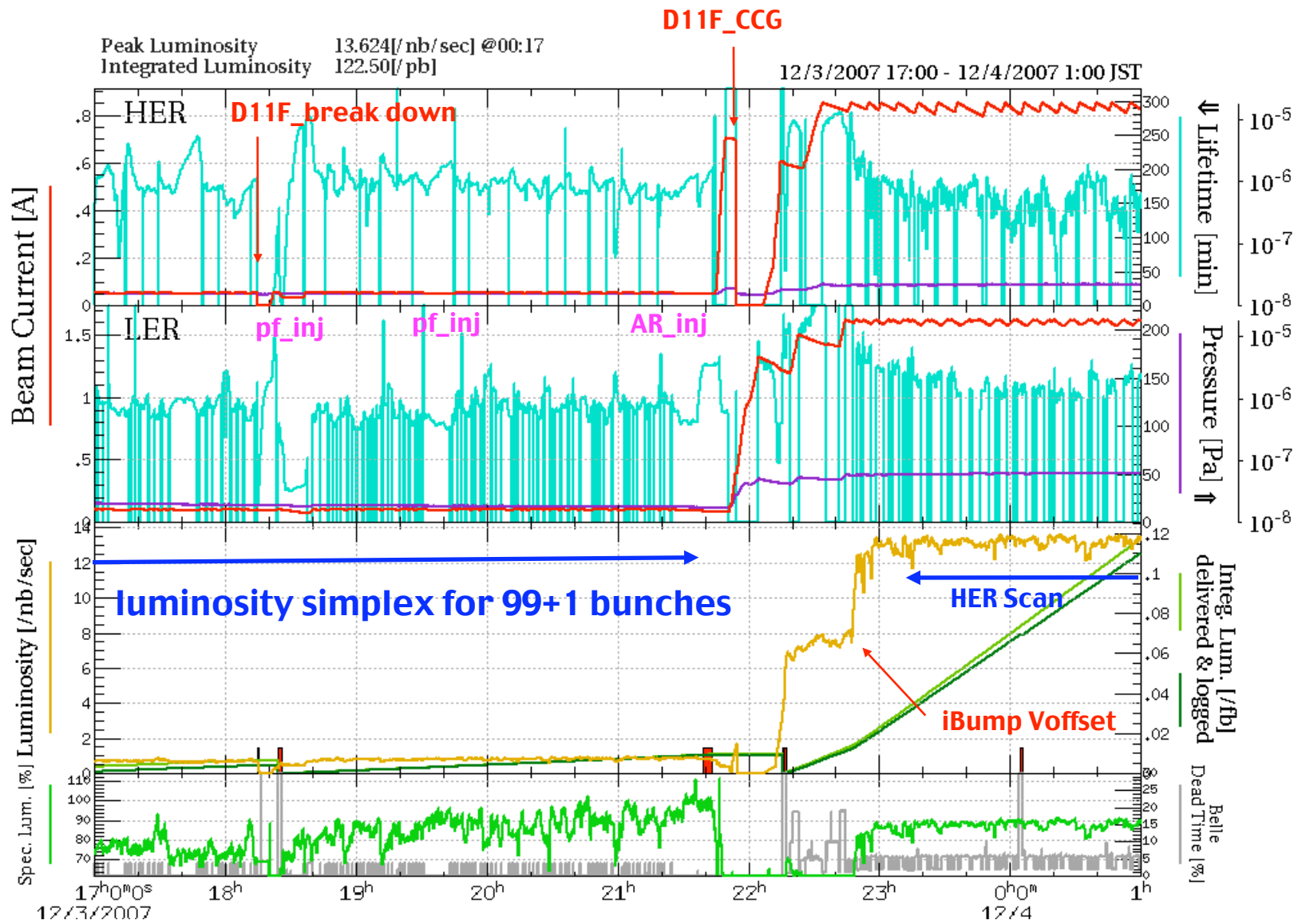
Beam Current : LER **1620** mA / HER **850** mA

Fill pattern : 49 spacing, 1 trains, 99+1 bunches

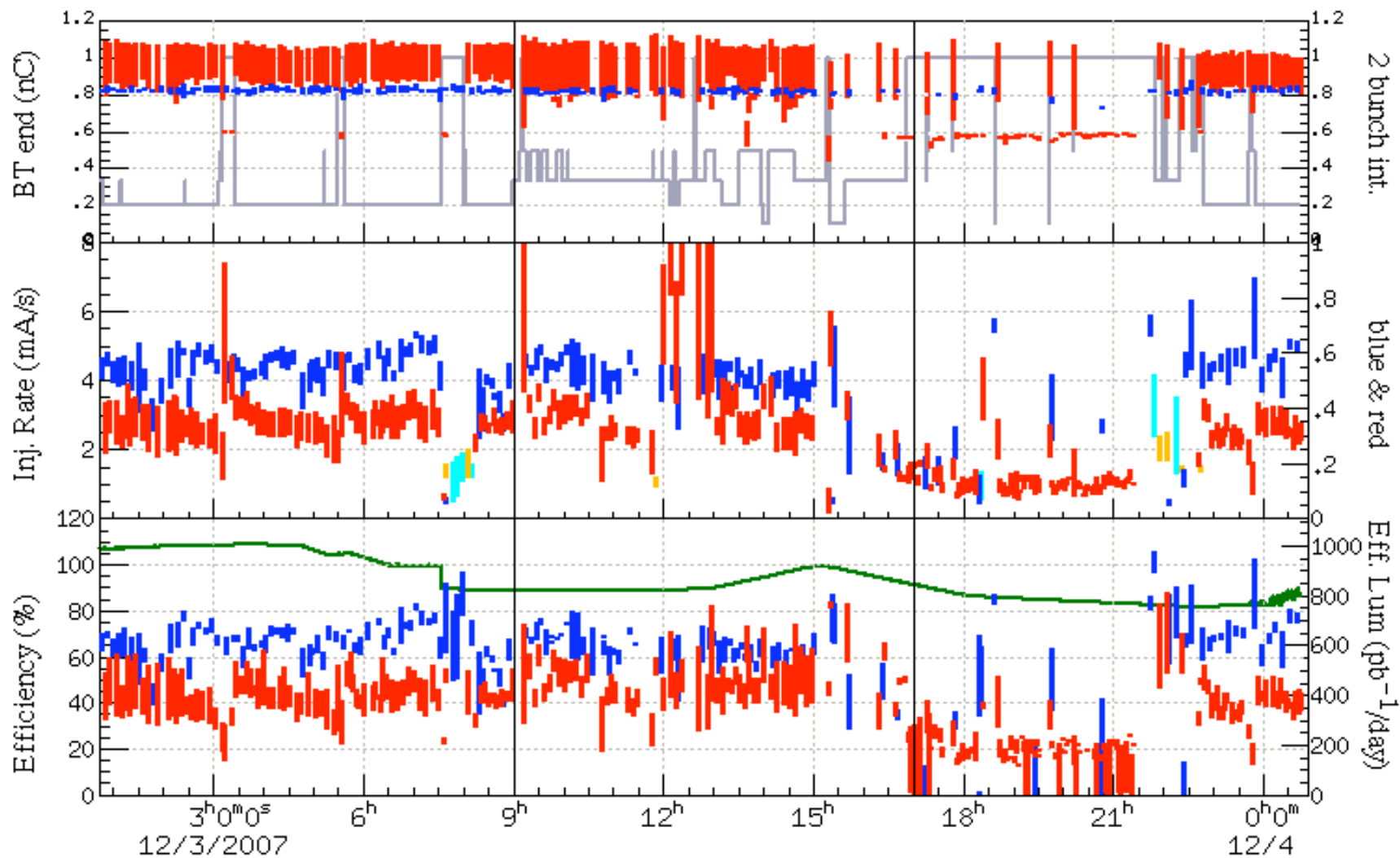
Fill pattern : 3.06 spacing, 1 trains, 1585+1 bunches

Aborts : LER_{only} : **0** / HER_{only} : **2** / Both : **0**

Shift Summary



Injection Summary



Tuning Items

- high current (normal) \rightarrow few bunches (99+1)

	LER		HER	
R_1	0.34 \rightarrow 0.52	0.18	5.00 \rightarrow 5.36	0.36
R_2	5.65 \rightarrow 5.19	-0.46	-4.26 \rightarrow -4.48	-0.22
R_3	-0.19 \rightarrow -0.08	0.11	-1.86 \rightarrow -1.73	0.13
R_4	-1.70 \rightarrow -0.39	1.31	-0.02 \rightarrow 0.36	0.38
η_y^*	0.30 \rightarrow 0.46	0.16	0.63 \rightarrow 0.84	0.21
$\eta_y^{*'}$	0.12 \rightarrow -0.23	-0.35	-0.96 \rightarrow -1.01	-0.05
η_x^*				
$\eta_x^{*'}$				
$R_2@Cra$				

Tuning Items

	LER	HER*
R_1		10.72→10.72
R_2		-14.933→-13.0
R_3		-1.73→-0.7
R_4		0.72→0
η_y^*		1.68→1.5
$\eta_y^{*'}$		
η_x^*		
$\eta_x^{*'}$		
$R_2@Crab$		

100 bunches : simplex

File Edit Command Window 12/03/2007 21:43:51 Help

Optimize Load Simplex Load Vertex Settings

List View Graphic View

R1L R2L R3L R4L EYL EPYL R1H R2H R3H R4H EYH EPYH

#7 Green Ratio 94.1204

LER Current Green Ratio (%)

21:30:00 12/3/2007 35m 40m

ER Percent (Knob)

Initialize Simplex Set Knob for the next point Cancel & Restart Data Taking

Stop Start Data Taking

Knob Ready Green Ratio (%): 91.561

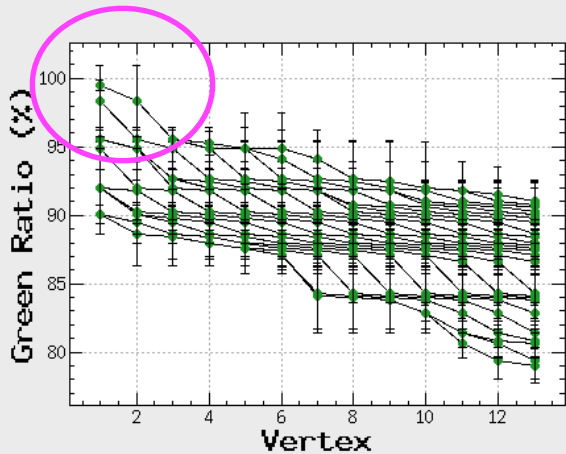
Simplex: Reflect Accept Data Hold Auto Accept

Set Knob Again Set Best Knob Set Start Knob Set Center of Mass

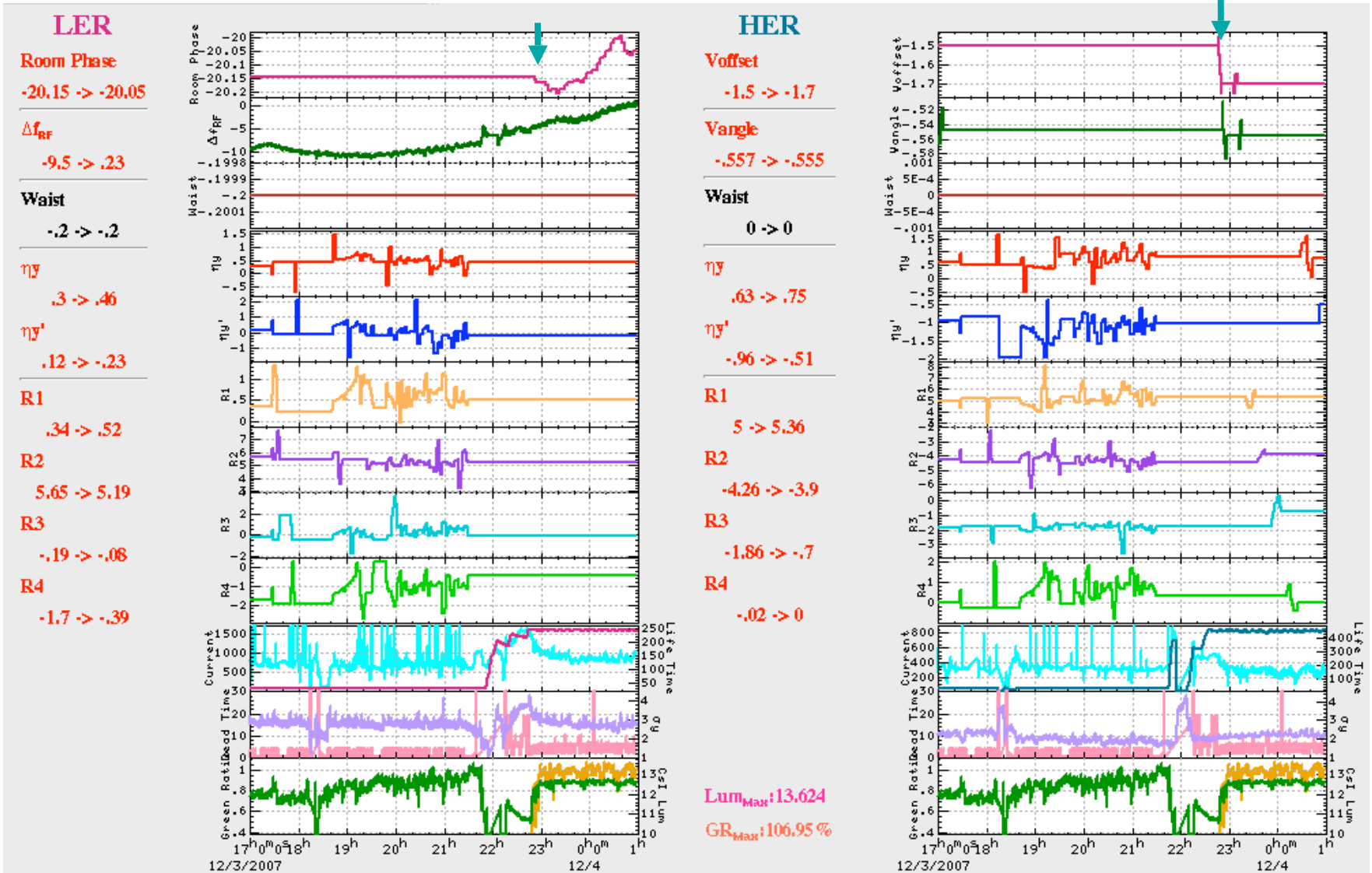
Simplex Volume .0034

Waiting.....

G reaches 100% at the best knob.



Knob 1



Knob 2

LER

LER Size@Inj
0 -> 0@0A

v_x @0A
.5067 -> .5091

v_y @0A
.5897 -> .5897

ξ_x
-.684 -> -.684

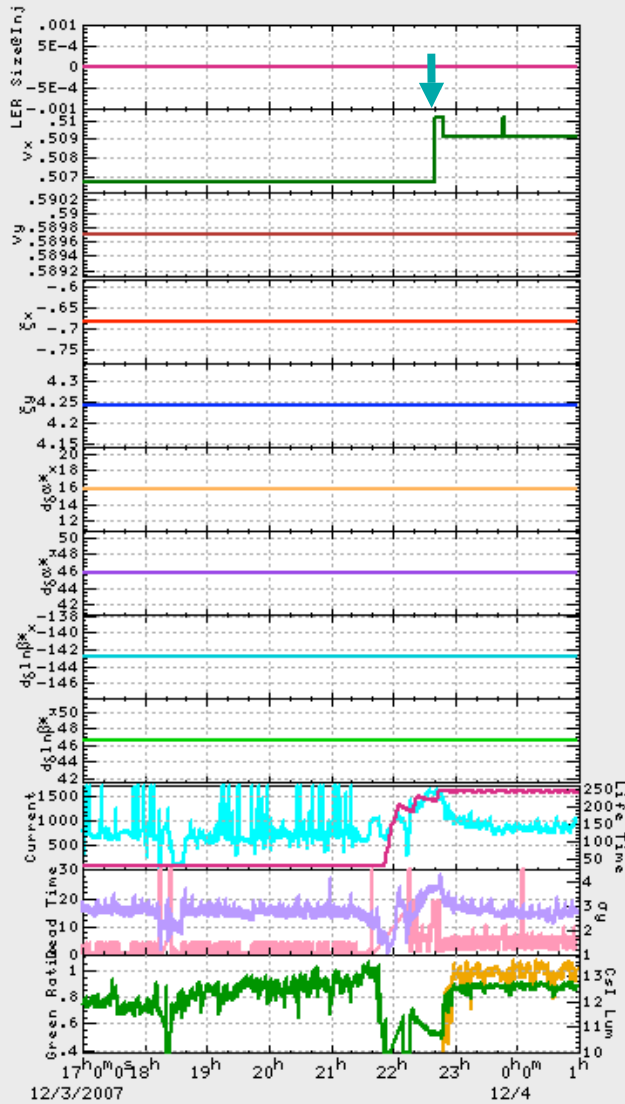
ξ_y
4.243 -> 4.243

$d_\delta \alpha_x$
15.76 -> 15.76

$d_\delta \alpha_y$
45.75 -> 45.75

$d_\delta \ln \beta_x$
-142.84 -> -142.84

$d_\delta \ln \beta_y$
46.56 -> 46.56



HER

LER Size@Col
0 -> 0@0A

v_x @0A
.5122 -> .5122

v_y @0A
.5923 -> .5923

ξ_x
-1.208 -> -1.208

ξ_y
.88 -> .88

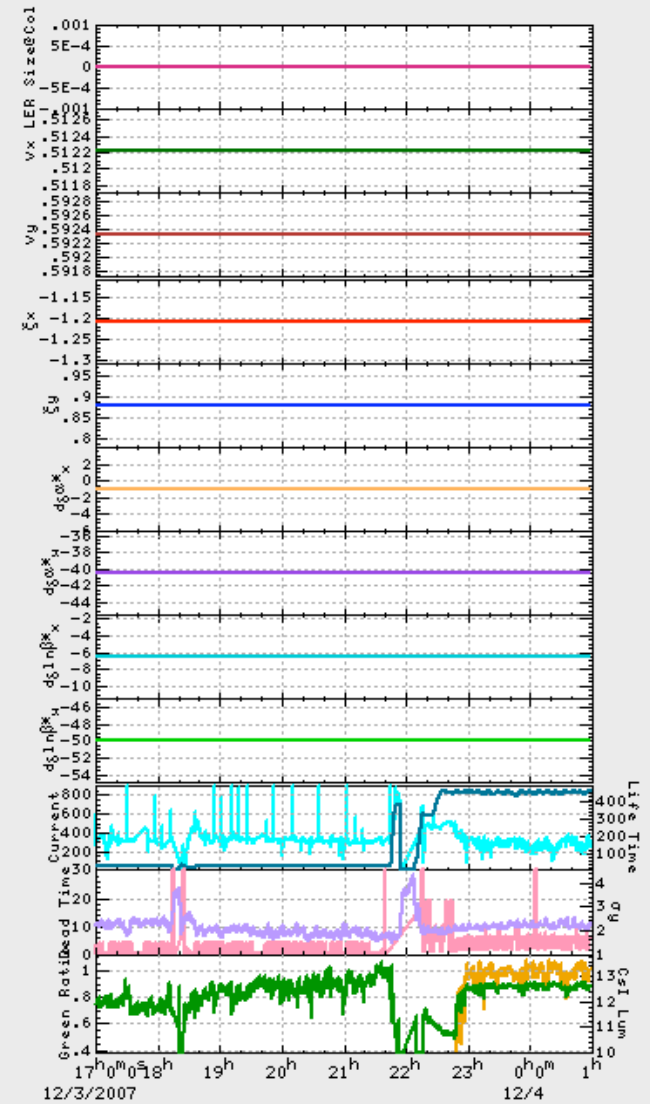
$d_\delta \alpha_x$
-1 -> -1

$d_\delta \alpha_y$
-40.49 -> -40.49

$d_\delta \ln \beta_x$
-6.55 -> -6.55

$d_\delta \ln \beta_y$
-49.97 -> -49.97

Lum_{Max}: 13.624
GR_{Max}: 106.95 %



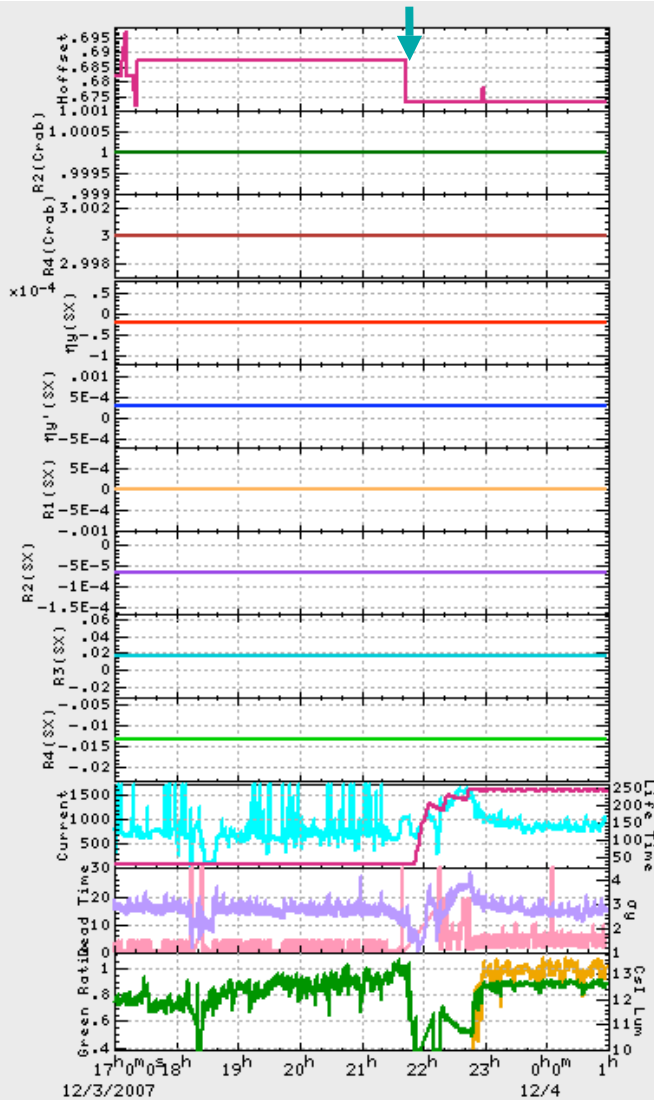
Knob 3

LER

Offset
 .682 \rightarrow .673
R2(Crab)
 1 \rightarrow 1
R4(Crab)
 3 \rightarrow 3

 η_y (SX)
 $-2.2E-5 \rightarrow -2.2E-5$
 η_y' (SX)
 $2.73E-4 \rightarrow 2.73E-4$

R1(SX)
 $-1.1E-5 \rightarrow -1.1E-5$
R2(SX)
 $-6.6E-5 \rightarrow -6.6E-5$
R3(SX)
 .016 \rightarrow .016
R4(SX)
 $-.013 \rightarrow -.013$

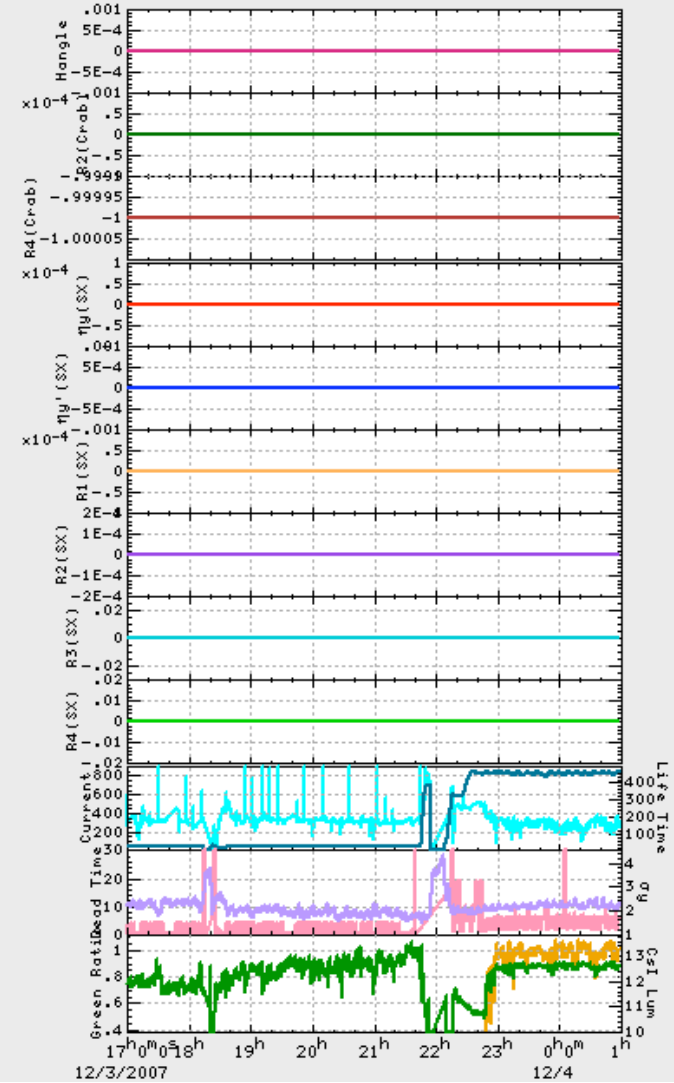


HER

Hangle
 0 \rightarrow 0
R2(Crab)
 0 \rightarrow 0
R4(Crab)
 $-1 \rightarrow -1$

 η_y (SX)
 0 \rightarrow 0
 η_y' (SX)
 0 \rightarrow 0

R1(SX)
 0 \rightarrow 0
R2(SX)
 0 \rightarrow 0
R3(SX)
 0 \rightarrow 0
R4(SX)
 0 \rightarrow 0



Lum_{Max}: 13.624
GR_{Max}: 106.95%

Comments

Troubles

1. HER crab D11F break down(18:15)
2. ZHQC3LP range out alarm (frequently)
3. ZHQC5LP range out alarm (frequently)
4. HER Abort RF D11-F(CRAB)_CCG (Abort) (21:54)
5. OPCCR : too many sockets alarm (22:39)
 - Backed to the normal state without any action.

Operationに関する感想、提案など

終わり

KEKB Shift Report Date : 2007/12/04(Tues.)

Morning Shift : Mimashi(K); Watanabe, Aoyama(M); Haba(B);

Almost stable ,quiet,calm,No troubles

To do list

1. knob scan

Peak \mathcal{L} / G-Ratio : **13.818** $\times 10^{33}$ **cm⁻²s⁻¹** / **90** %

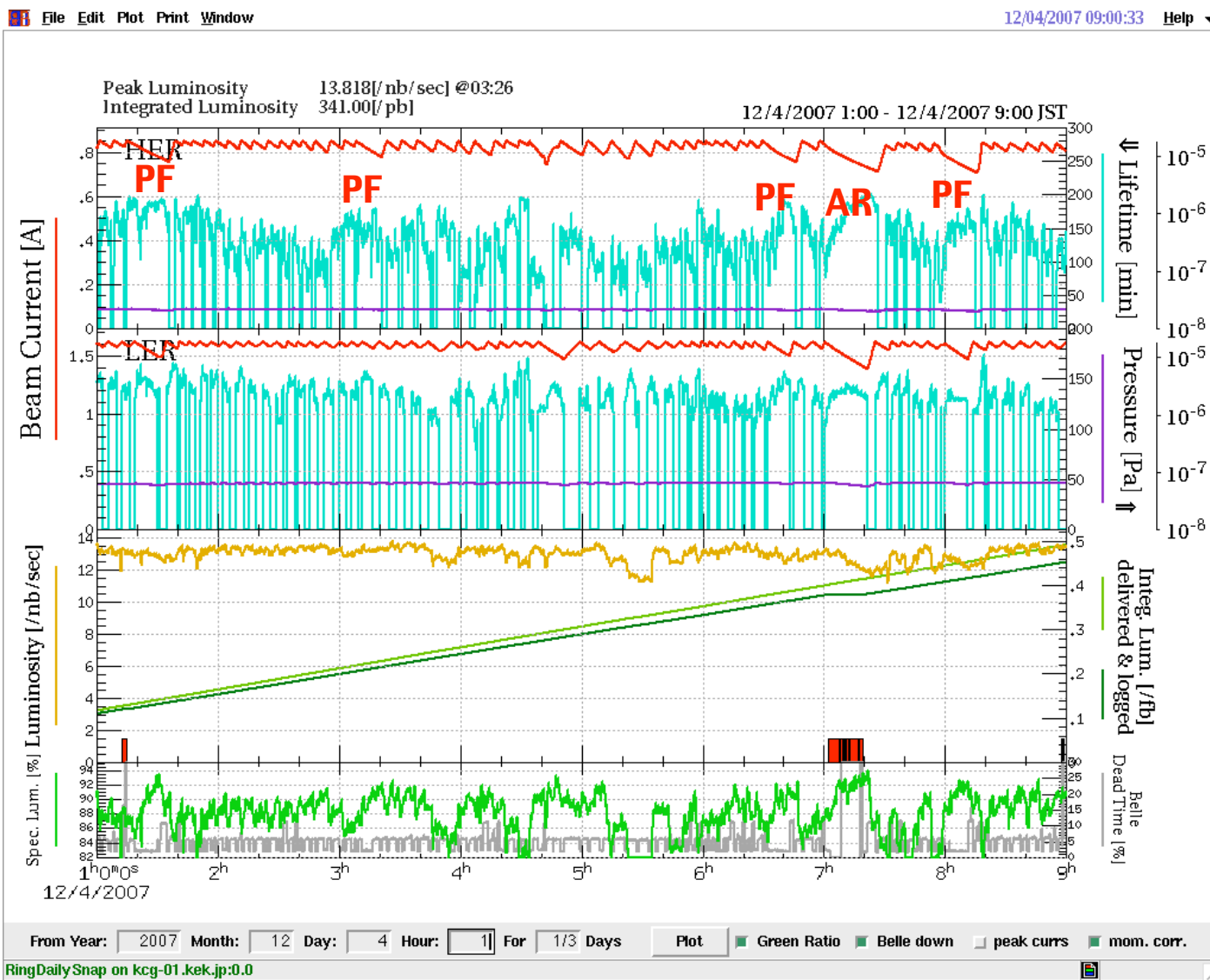
Shift \mathcal{L} / Day \mathcal{L} : **341.7** **pb⁻¹** / **---.- pb⁻¹**

Beam Current : LER **1620** mA / HER **850(840)** mA

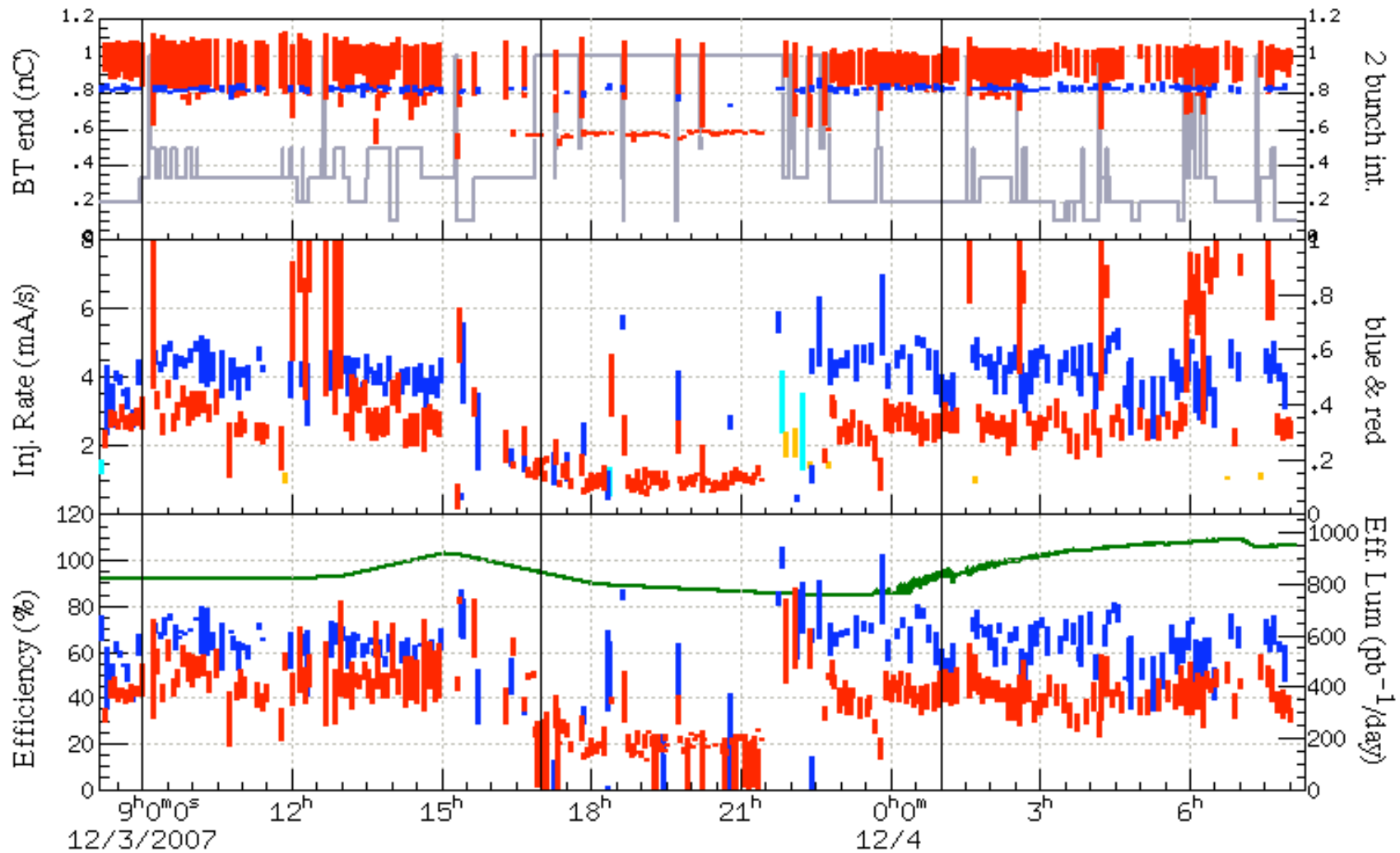
Fill pattern : 3.06 spacing, 1 trains, 1584+1 bunches

Aborts : LER_{only} : **0** / HER_{only} : **0** / Both : **0**

Shift Summary



Injection Summary

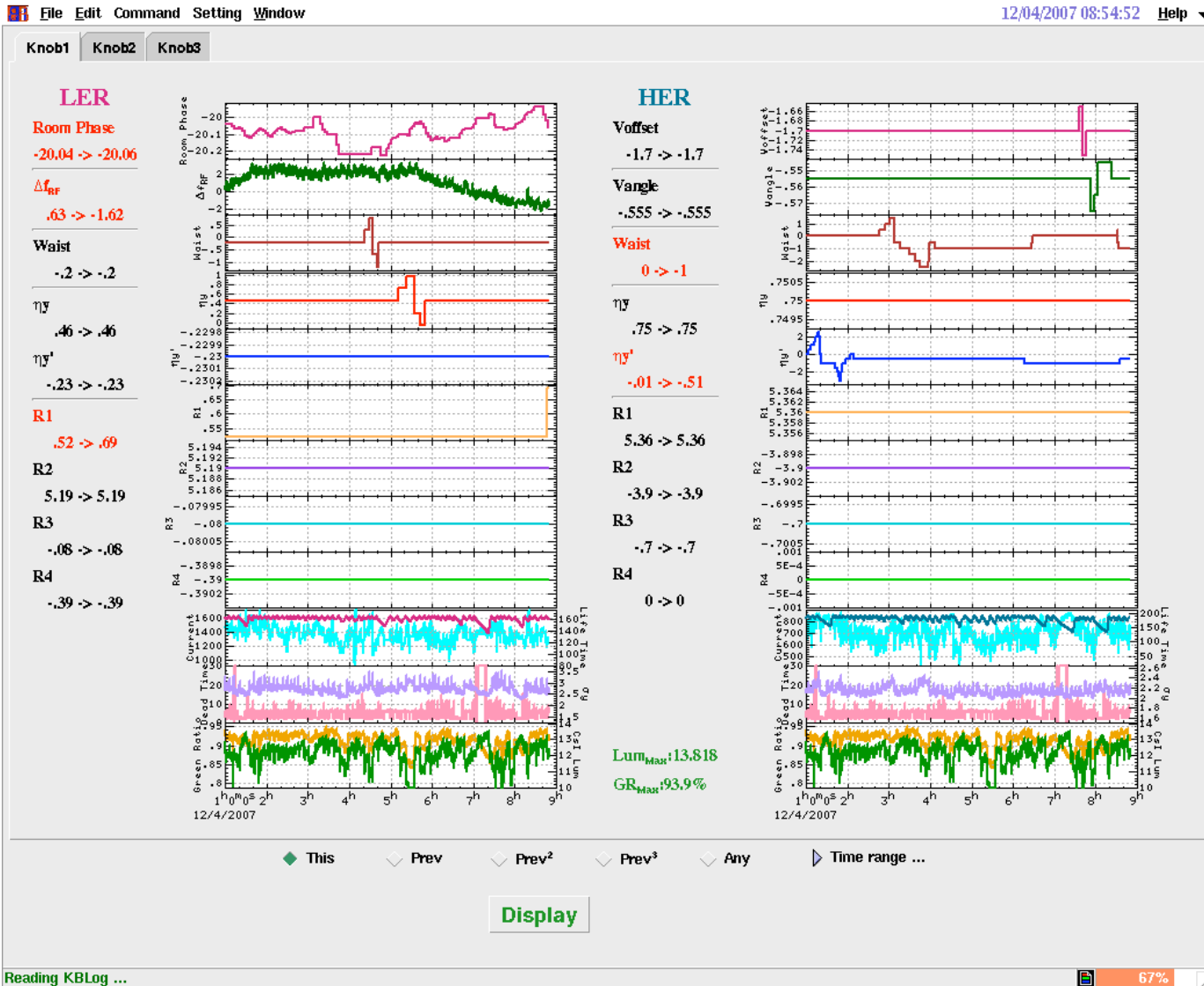


Tuning Items

- Tune, IP knob, Waist, ibump

	LER	HER
R_1	0.52->0.52	5.36->5.36
R_2	5.19->5.19	-3.9->-3.9
R_3	-0.08->-0.08	-0.7->-0.7
R_4	-0.39->-0.39	0.0 -> 0.0
η_y^*	0.46->0.46	0.75 -> 0.75
$\eta_y^{*'} $	-0.23->-0.23	-0.01 -> -0.51
Waist	-0.2->-0.2	0->-1
ν_x	+0.005	-0.002
ν_y	-0.0058	+0.0013
Hoffset	0.673->0.673	

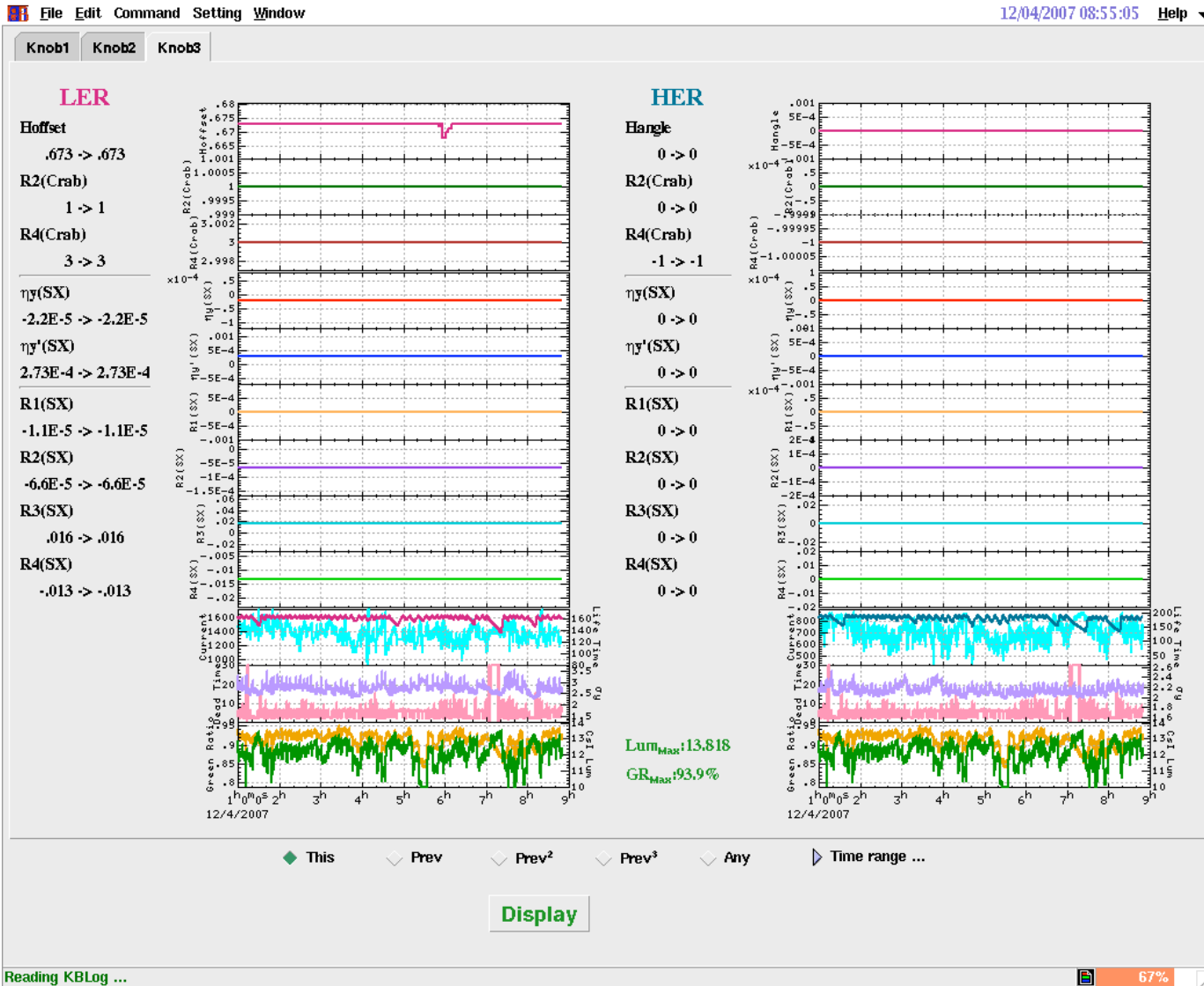
Knob 1



Knob 2



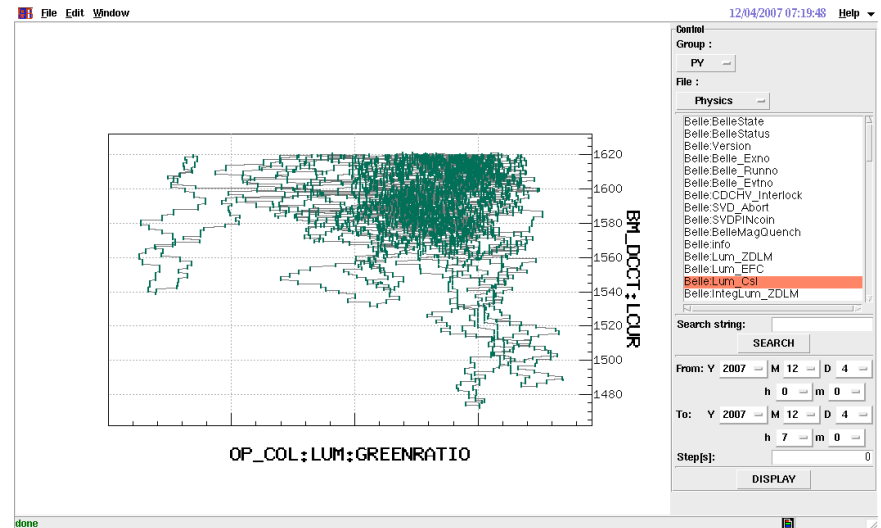
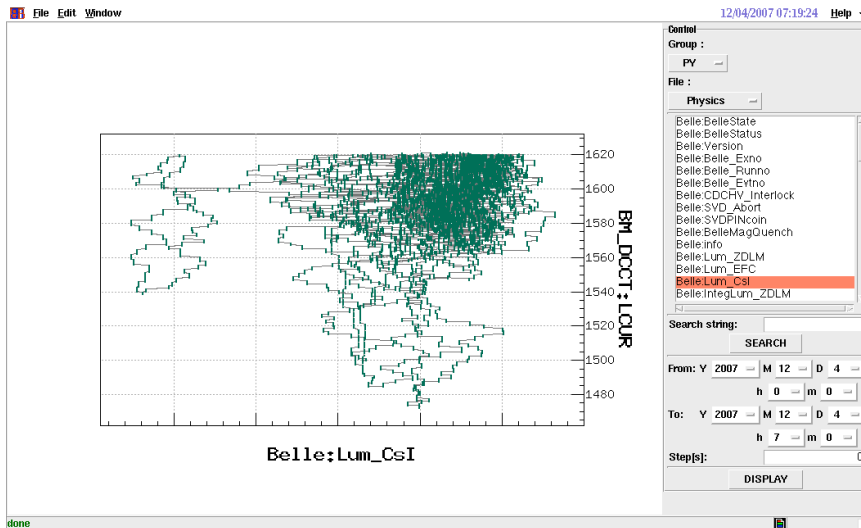
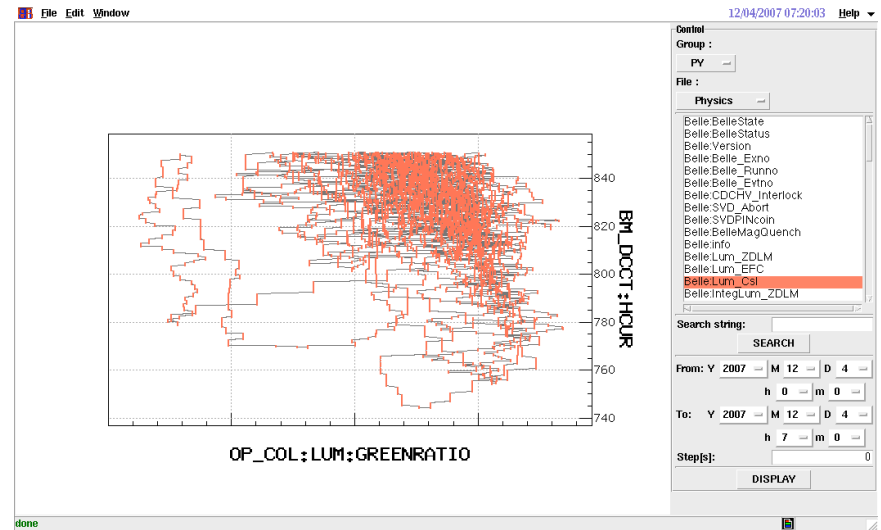
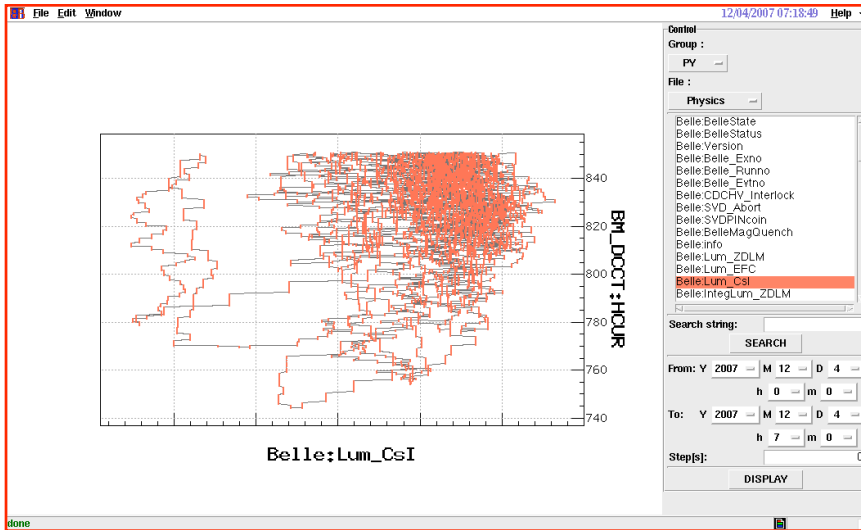
Knob 3



Comments

1. PF Injection (1:22, 3:10, 6:36, 8:00)
2. AR Injection (7:00)
3. More LER Current may give more Luminosity ?

Current Ratio



Troubles

1. 4:24 ZHQC5LP_1 Rejected (Range Out)
Alarm -> disappeared soon.
2. 8:10 ZHQEAE_43 Set Failed (Time Out)

The
Food