Beam Extraction orbit in the case of the pulse magnet(4.6mrad, 3.5mrad) and strip-line kicker(3.0mrad)
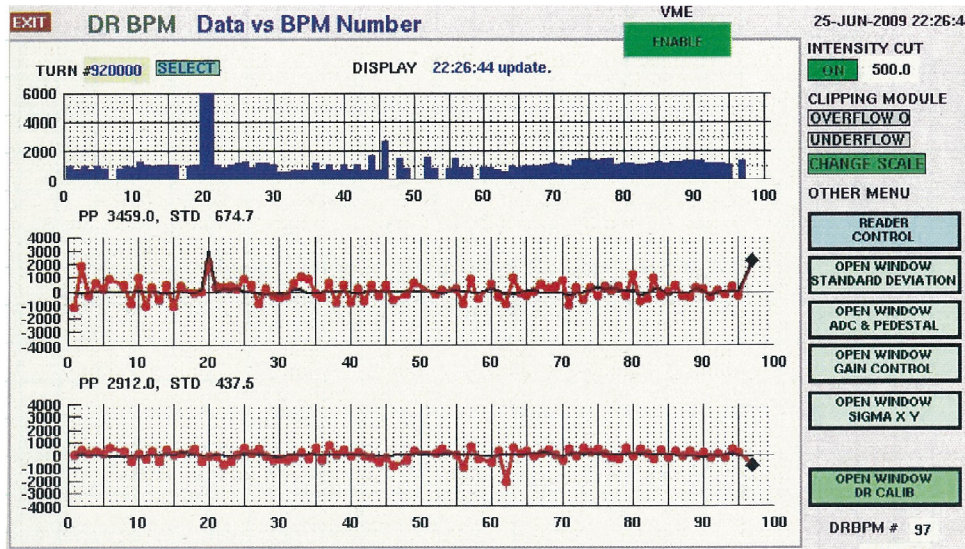
K=1.0

K=-0.7043917

K=0.4003428

ZH9R QM5R.1

Strip-line kicker(60cm x2)
Kick angle 3.0mrad

QM6R. ZH100R

ZH101R QM7R.1

0   150

2163   2433

2833

3283 3383   3850

1100

-7mm

4.6mrad   3.0mrad   3.3mm
(3.5mrad) (2.6mrad) (2.86mm)

7mm

5.31mrad
(4.6mrad)

14mm

5.98mm
(4.55mm)

8.7mrad
(6.6mrad)

12mm

Pulse magnet kicker
(60cm)

10.1mm

28mm

9.77mm
(8.47mm)

12.25mm
(10.6mm)

0.41mrad
(0.36mrad)

Septum(BS1X)

16.6mm
(12.6mm)

20.77mm
(15.6mm)

0.4mrad

The beam can not extract even 3mrad kick angle of
the Strip-line kicker for the geometrical restriction.

Beam extraction by using the local bump and auxiliary septum

2.6mrad kick angle
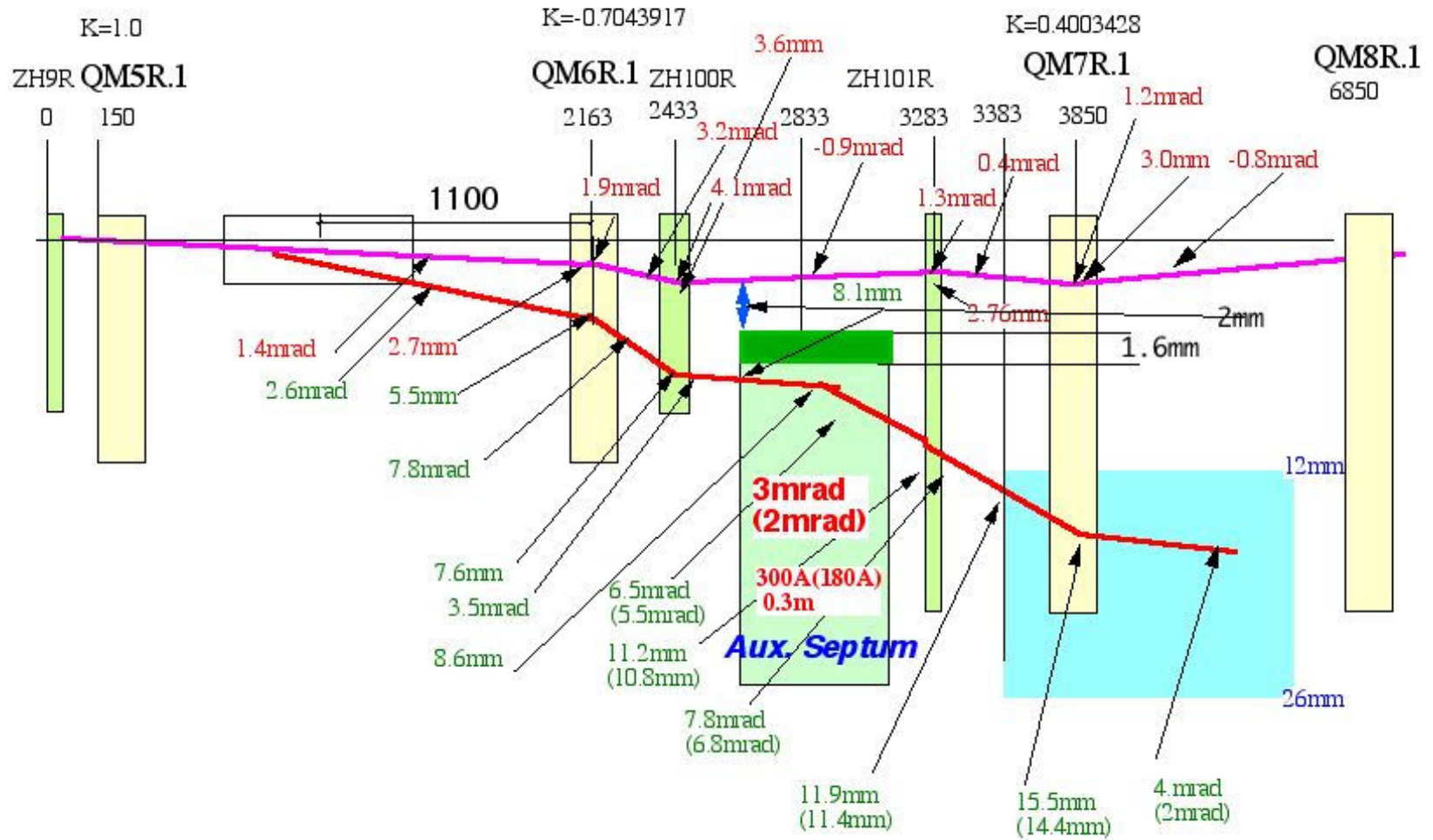
Beam extraction test by using the kicker magnet, the local bump and auxiliary septum

The kick angle (Normal operation 39000) could reduce to 24000.

Beam kick test at ATF2 line

60cm long Strip-line kicker

	Left Side electrode	Right Side electrode	(Calc.)
2ns pulse	-400 ~ -380urad	+280 ~ +240urad	(600urad)
(Vertical)	+50urad	+40urad	(0urad)
4ns pulse	-750 ~ -640urad	+480 ~ +440urad	(900urad)
(Vertical)	+70urad	+70urad	(0urad)

30cm long Strip-line kicker

	Left Side electrode	Right Side electrode	(Calc.)
2ns pulse	-313 ~ -283urad	+270 ~ +257urad	(350urad)
(Vertical)	+40urad	+20urad	(0urad)

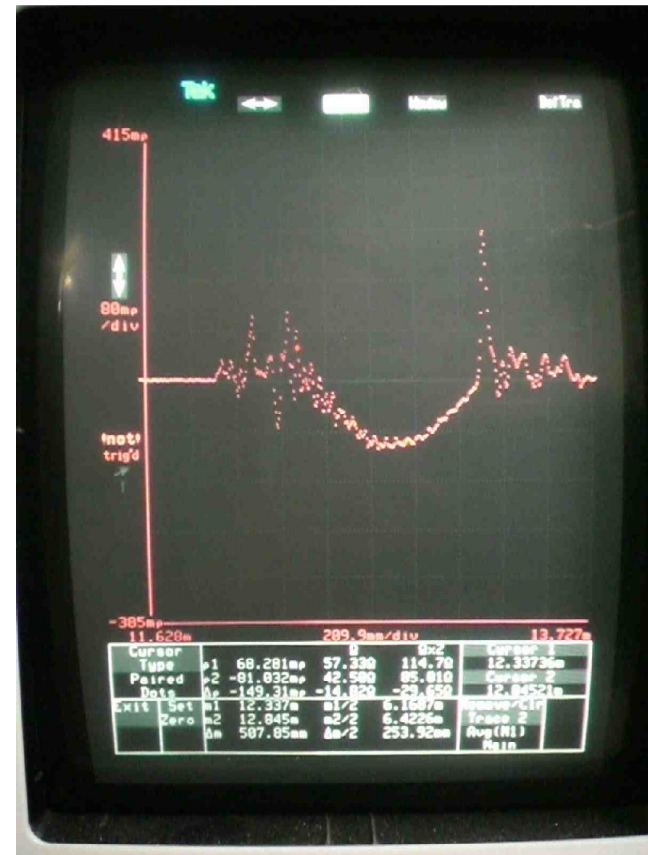# 60cm Left side electrode
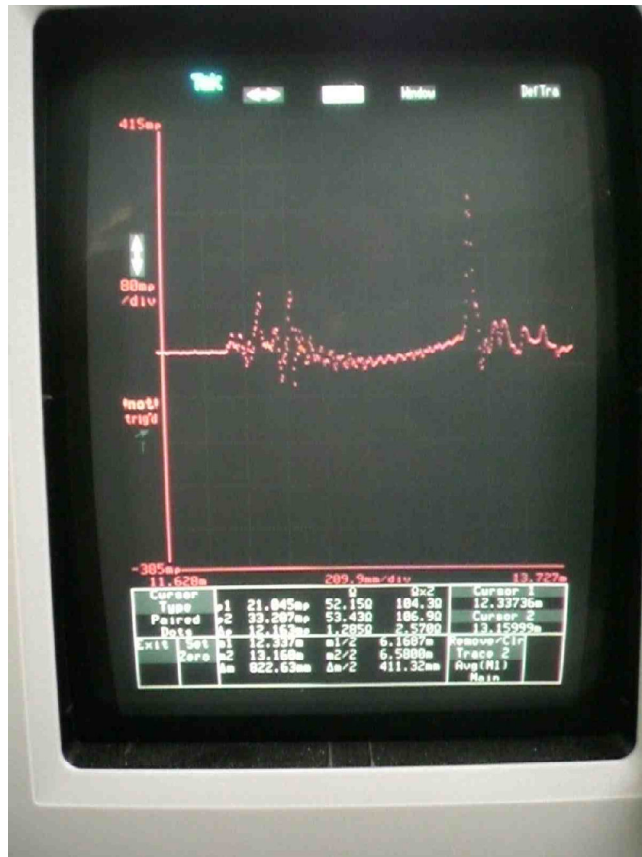
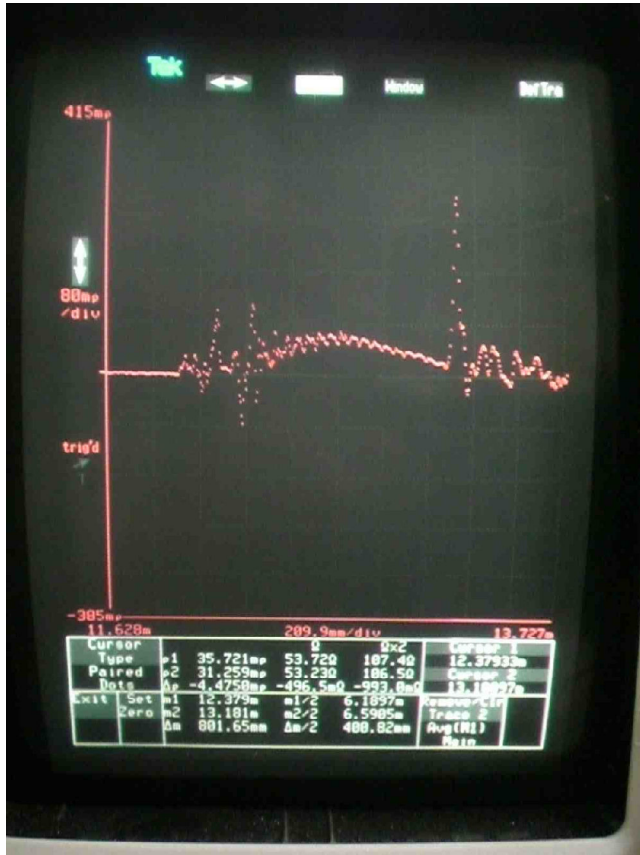In　　52.95Ω
Out　　52.95Ω
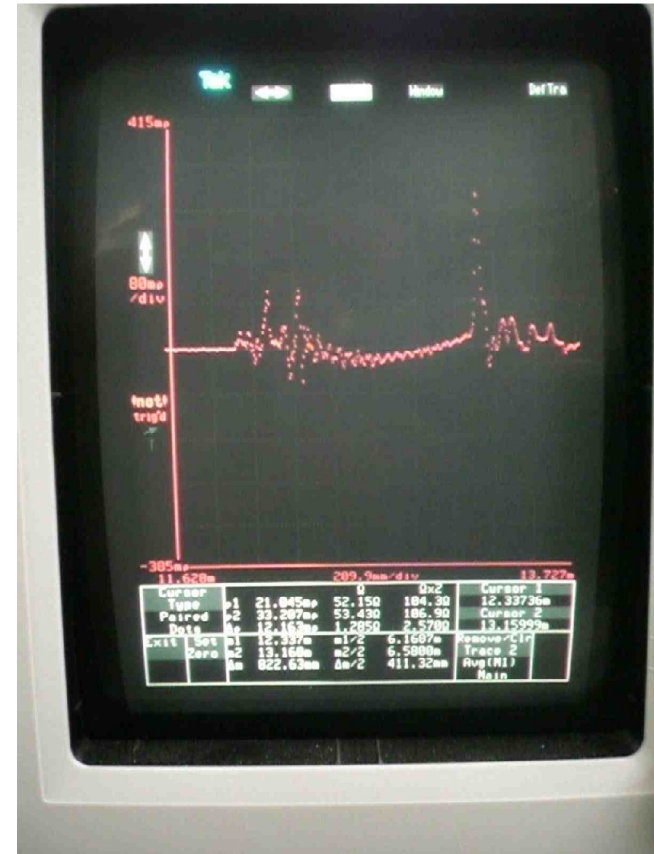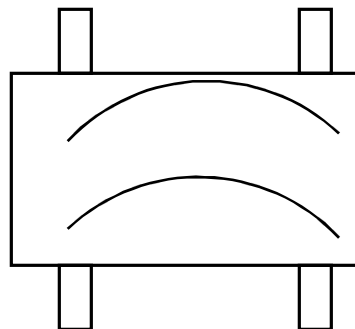Middle 48.9Ω
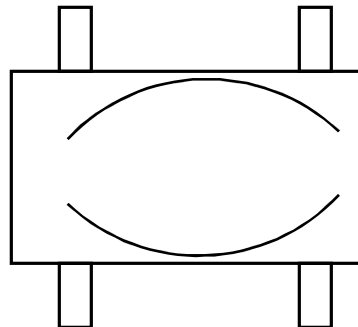
(Beam Test)

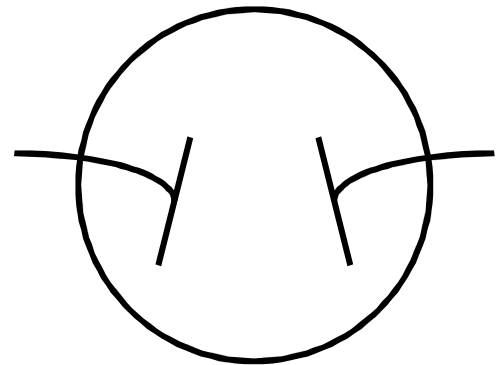# 60cm Right side electrode

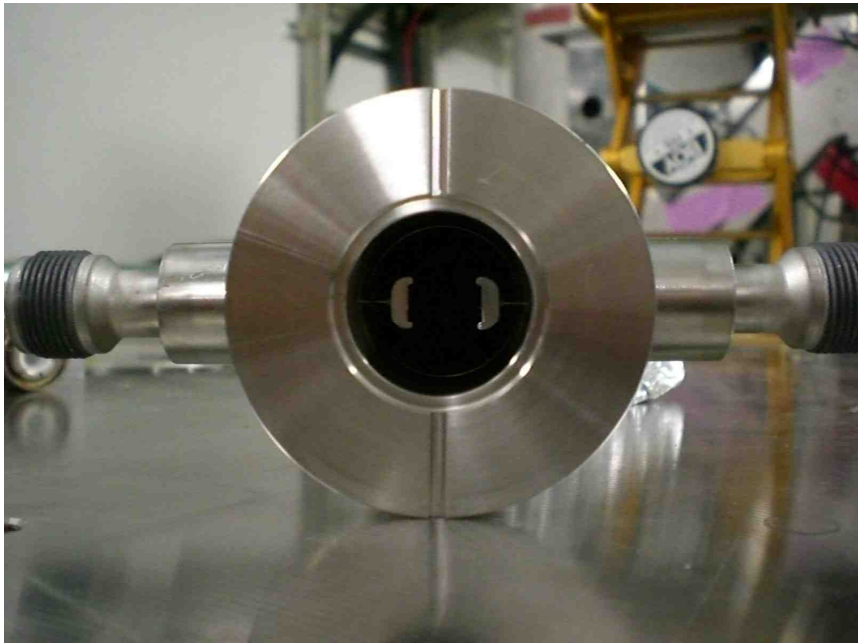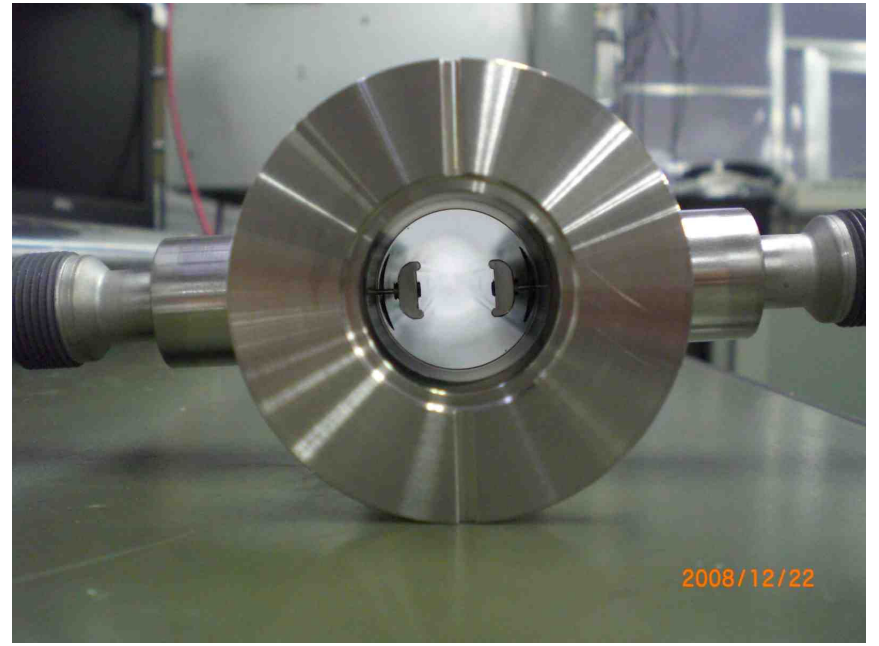
In　　57.3Ω
Out　　50.16Ω
Middle 41.9Ω

60 cm Left side electrode

In   53.5Ω
Out   53.2Ω
Middle 58.5Ω

60cm Right side electrode

In   52.2Ω
Out   53.1Ω
Middle 45.4Ω

2008/12/22
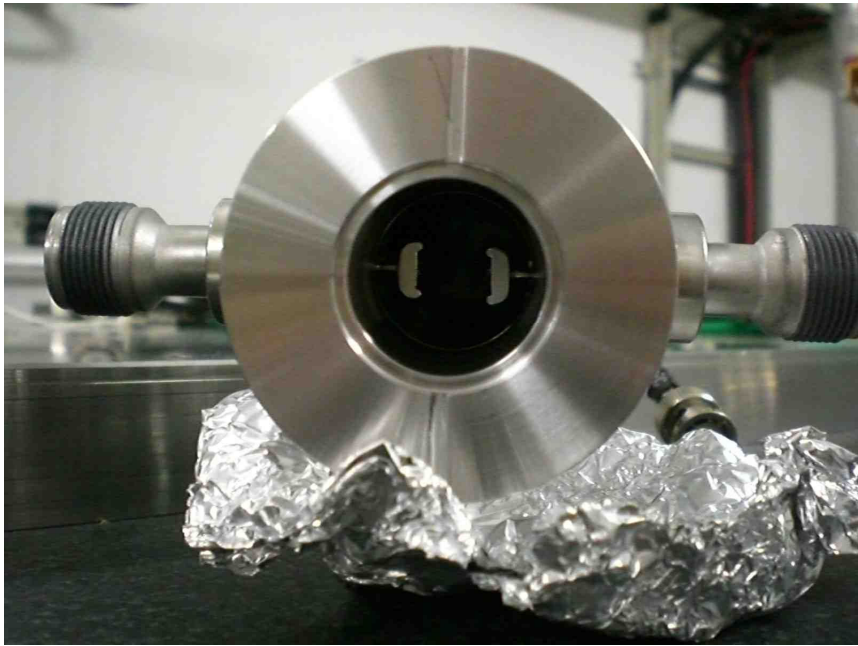
Improvement for the next experiment

- Re-fabricate the strip-line electrode

- Using 4ns pulser x 4 (20%)

- Strip-line gap 12mm ->11mm(10%)

- Strip-line length 60cm ->66cm(10%)

- Length of the BS0X 57cm ->37cm

  - The orbit difference of the upstream of the BS0X increases ~1mm

Schedule of the next beam test
2009/10/19~   1 week