

# ***Task Lists of ATF2 commissioning***

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ATF2 Project Meeting  
12 / 17 / 2008***

# Schedules of ATF2 commissioning

*early December*

*Fast Kicker Study ?? ( Not yet decided )*

*Radiation Inspection*

*The “fast kicker study” will be used the special setting.*

*ATF2 Start*

*early 2009 ~ ?*

*Beam line  
commissioning*

*DR study  
( fast ion, DR emittance ... )*

*Reduction of  
radiation loss*

*Hardware study at the extraction line  
( FONT, Laser Wire ... )*

*Injection  
stabilization*

*Extraction line tuning and study  
( dispersion, coupling correction , emittance growth at extraction... )*

*Device Commissioning for ATF2  
( cavity BPM, Mover, Guarder, Magnet PS )*

*ATF2 final focus line study  
( beam size tuning, stabilization ... )*

***We are here !***

## *January 2009*

### *Hardware works*

Install and uninstall of fast kicker and in-vacuum septum magnet.

Install the post-IP C-band BPM

Calibrate the stripline BPM readout electronics

Fine alignment of ext. and ATF2 line magnets

Install the wide aperture QM7R

Install the QS2X

### *Beam time ( Two weeks, 21 shifts )*

Fast Stripline Kicker study

Cold Cavity BPM study / RF gun at linac.

If possible,

- DR fine tuning
- DR optics diagnostics and BBA
- Cavity Compton study

and other DR studies

## **February – March 2009**

### ***Hardware works***

Realignment of linac and BT line  
Install the FONT kicker and BPM  
Install the laser wire  
Install the IP-BPM ?

### ***Beam time ( 5 weeks, 60 shifts )***

*30 shifts will be able to spent by DR and other ATF R&D.*

DR optics diagnostics  
DR emittance tuning  
FONT  
Laser wire  
Fast Ion Study  
Cavity Compton

and so on.

## ***ATF2 beam time in February – March ( 30 shifts or more )***

### *Priority studies are hardware related works*

Physical alignment check with beam ( kicker, chamber, ... )

Calibration of BPM and BBA (EXT and FF)

Commissioning of carbon wire scanner

Optics modeling and magnet strength test with beam

Commissioning of IP-BSM

### *Beam tuning developments*

Beta matching from DR to EXT ( check of QM7R )

Beta matching from EXT to FF

Coupling correction with 2 skew quads

Dispersion correction

Beam size tuning with carbon wire

Slow orbit feedback

## *April – May 2009*

### *Hardware works*

Install the IP-BPM ?

Install the sweeping magnets ?

### *Beam time ( 5 weeks, 60 shifts )*

#### *DR and other ATF R&D.*

DR optics diagnostics and tuning

FONT, Laser wire, Fast Ion, Cavity Compton, ...

#### *ATF2 studies*

Beta matching

Coupling, dispersion correction

Beam size tuning with carbon wire

**First trial to beam size tuning with IP-BSM**

Slow orbit feedback

IP feedback test ?

# Discussions

## ***Milestones ?***

- Long term ( by May 2009 )
- Short-term ( every 1 or 2 month )

## ***How to manage the beam time and visiting schedule for outside of KEK collaborators ?***

- We'd better to discuss the beam time and visiting schedule on Feb. and March. ( now or meeting on early January 2009 )
- We'd better to have the meeting around Feb. to March to discuss the beam time and visiting schedule of April and May.

## ***What kind of beam optics will use ?***

## ***When we should install IP-BPM ( hardware is ready ) ?***

Small aperture ( 6mm full height ) and difficult to align to center.

When IP-BPM is installed,

- cannot switch back to "Radiation Inspection" optics.  
"Radiation Inspection" optics is easy for cavity BPM calibration and BBA.
- may make the background large.