Achieving ATF2 goal 1 in 2010

discussion

Philip Bambade

Milestone	
BSM Laser Wire mode commissioned	●
First test of fast kicker	●
Observe several micron beam size	●
Achieve εy=24pm beam in DR	●
BSM 8° (0.25-1.5um) commissioned	
Observe sub micron beam size	←
BSM 2° mode (1-6um) commissioned	●
Achieve εy=24pm beam in DR	●
Extract and preserve of εy=24pm	●
BSM 30° (70-400nm) commissioned	←
First observation of ILC-scaled σy=75nm	
Achievement of εy < 12pm in DR	●
Repeat observation of 75nm beam	←
Extract & preserve εy=12pm beam	●
BSM 174° (20-100nm) commissioned	←
First observation of design 37nm beam	←
Fast kicker system fully commissioned	
Monalisa installed on beamline	
Reliable observation of 37nm beam	←
First tests of mild beta squeeze	
Achieve 2nm resolution of IP BPM	
Evaluate IR position stability to nm level	
Commissioning of Monalisa	
Commissioning of FONT feedback	
Observe of nm stability of IP position	
Initial tests of squeezed β-function	

ATF2 goal 1 priorities in 2010
discuss in project meeting this week

Jan.-Feb. (3+2w)

March (2w)

April-June (3+2+2w)

Autumn (2+2+3w)

- fast kicker testing (goal 2)

- BSM bkgd when reducing β^* ?

- new stripline BPM electronics

- **BSM in 30 & 174° modes**

- new multi-OTR diagnostics

- σ_y corrected → below 200nm

- σ_y corrected → design 37nm

ATF2 goal 2 priorities in 2010

Not fully reflected in current milestones

- **ILC-like trains**
- **FONT**
- **LW**
- **IP-BPM**
- **Tilt-monitor**
- **PM quad**

Scheduling ATF2 work to achieve goal 1 in 2010

• 4 days per week operation with 50% for ATF2 in general means 6 shifts per week for ATF2 beam tuning with BSM, new instrumentation and software testing, other ATF2 R&D for goal 2

➔ is it enough, do we need more ?

• many R&D activities as beam users, with various needs and separate agendas, aims and methods

➔ for ATF2 goal 1, continuous "operation & tuning" blocks of shifts coordinated with BSM, with common procedures

• the tuning team needs strengthening

➔ contributions from ATF2 collaborating groups

➔ support and expertise of KEK ATF team

• software integration (flight simulator, V-system)