Instrumentation summary

...in 5 minutes or less

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ATF2 Instrumentation

- *"BDS" Instrumentation*
  - BPMs
  - LaserWire
  - Feedback
- *IP Instrumentation*
  - Shintake Monitor
  - IP BPM
  - Nanopattern Det.

Status

- DR BPM - Calibration system tested, with few modifications, ready for production for full ring upgrade
- QBPMs - Algorithms tested, electronics ready for installation, some hardware remains to be purchased
- FONT - Required performance demonstrated, currently optimizing processing electronics, studies of kicker performance and placement
- Testing new BPM processor

Status, cont'd.

- Laserwire - Transport optics, beam finding capability, and laser quality upgraded
- Shintake Monitor - new optical table designed, testing of components underway; multiple data processing algorithms studied; gamma detector testing underway
- IP-BPM - Good resolution tests, some redesign for final install
- Low-Q (multi-bunch) BPM tested, processing speed and resolution good

Status, cont'd.

- Nanopattern - initial fabrication tests successful,
  - beam tests with representative material good

Recent Results

- DRBPM - still processing data
- QBPM - Retested First-Pulse phase and amplitude measurement
- FONT - new BPM processor σ=1.6μm; optimal phase advance (z placement) of kickers available (see presentations: Lopez, Kalinin)
- Laserwire
  - optics and positioning hardware tested
    - *editor's note: collisions restored yesterday*

Recent Results, cont'd.

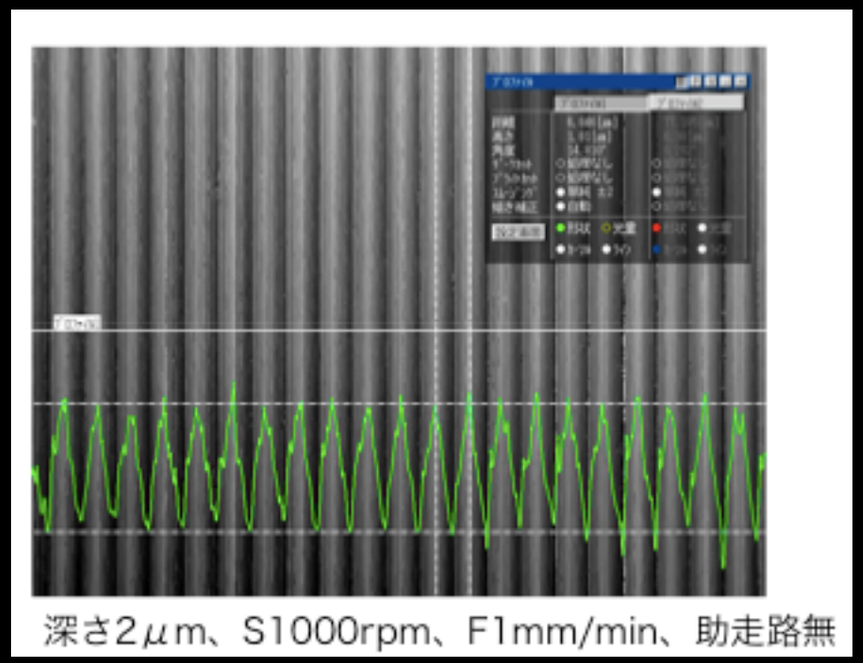
- Shintake Monitor
  - background data with gamma detector from recent runs

editor's note: took data during recent LW collisions

- IP-BPM
  - multi bunch resolution ~1.5 μm (40 dB attenuation)
  - new design fabrication completed soon
- Low Q BPM
  - good tests, resolve multiple bunches at 154ns spacing

Recent Results, cont'd.

- Nanopattern detector
  - test sample to be removed after run finishes



fabrication test, 2μm pitch

Upcoming Tasks

- DR BPM Upgrade
  - Production and installation
- QBPM
  - Installation and commissioning
- FONT
  - confirm device placement
- LaserWire
  - Prepare for relocation (optics transport), implement ODR, study optics aberrations

Upcoming Tasks, cont'd.

- Shintake monitor/gamma detector
  - finish table and optics tests, install
- IP BPM
  - reach target resolution
- Nanopattern
  - check test sample for radiation damage
  - test fabricate actual target
  - engineering of positioning system

Schedules

ATF2 beam on

DRBPM install

QBPM install

move LW

install Shintake laser system

install Shintake monitor and IP BPM

install feedforward, feed-back hardware

Thanks!