

Schedule of Shintake-monitor

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On behalf of ATF2 Shintake-monitor group

Topics

1. Schedule

1. Past. (2005~2006)
2. ~ install (2007)
3. ~ beam on (2008)
4. Commissioning

2. Manpower

3. Summary

Schedule (1) past. (2005~2006)

	2005												2006												
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
Overall			Preparation				Transportation																		
Optical system							Base system study & alignment											Phase stabilization system by linear image sensor & optical delay line							
													Laser SHG												
													Fringe monitor (study by pinhole, CCD)												
													Optics fine-tuning												
DAQ for optics												Software for PDs, mirror controls													
																						DAQ for image sensors			
Gamma detector				Background study at ATF ext. line										Detector conceptual design (scintillator or Cherenkov)											
							Background simulations															Detailed design (size etc.)			

- Almost 2 years from start.
- Optics: Base study of phase stabilization almost finished.
- Detector: Detector design simulation study almost finished.
- DAQ: Developed DAQs for individual components.

Schedule (2) ~ install (2007).

	2006	2007											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Overall													Transport to KEK
Optical system	Improvements on phase stabilization						Timing correction						
						Stability for pulsed / high power laser							
	Air flow reduction							Cover for operation					
		Laser beam pos. stabilization					Tests for pulsed laser						
		Vibration study					Tests for high power laser						
DAQ for optics	software for improved stabilization				Upgrade and test for pulsed laser								
Support	Vibration analysis on optical table					Making a new support frame					Assembly		
Gamma detector	Simulation						Detector modification						
		Detector assembly											
				Tests by cosmi. & ATF background									
Detector DAQ			Detector DAQ system										

- Optics: Many works remain, but pulsed / high power laser test is the main work.
- Detector: Detector assembly & test scheduled.
- Support: Support system construction & assembly.
- We hope we can transport the system to KEK by end 2007.

Schedule (3) ~ beam on (2008)

	2007	2008												
	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
Overall		Connect to beam line with IP-BPM							Commissioning					
Optical system		Laser transport			Alignment test with vacuum chamber									
		Realignment				Vibration study								
			Test of stabilization system											
Software		Cabling			Communication with ATF control, monitors, IP-BPM									
		Combined software system for optics & detector												
Gamma detector		Cabling			Detector tests									
		Collimator making & installation												

- Construction of total system (combining optics, detector & other ATF2 monitors) will be the main work before beam.
- Optics: Constructing laser line & realignment. Work that cannot be finished before transport will be done.
- Detector: Collimator study. Not much work without beam.
- Connect with IP-BPM is another important work.

Schedule (4) commissioning

	2008			2009					
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.
Overall	Commissioning			Operation ready!					
Optical system	Alignment to beam			Resolution estimation					
				Study on stabilization effect					
Gamma detector	Modification on BG reduction								
	Analysis on background amount & spectrum								
	Background reduction								

- We must study real background spectrum to determine BG separation coefficient just after beam can be arrived at IP.
- Laser alignment to hit the electron beam is another main work with beam.
- Beam size measurement will be ready in about 3 months from beam on (if no trouble & not too much background).
- Detailed resolution / error study will be done after beam commissioning.

Manpower

- Taikan SUEHARA (Univ. of Tokyo, D2)
 - Optics (main table, laser table)
 - Overall design, etc.
- Hakutaro YODA (Univ. of Tokyo, M1)
 - Gamma detector
- 2 other (undergraduate) students of Univ. of Tokyo are working on electronics & simulations
- Tatsuya KUME (KEK)
 - Advisor for optics
 - Table support frame
- Yosuke Honda (KEK)
 - Advisor (optics etc.)
 - Vacuum chamber with IP-BPM
- T. Tauchi (KEK), T. Sanuki (Univ. of Tokyo)
 - Advisor (ATF2, overall)

Summary

- Schedule from 2005 to 2009 was briefly overviewed.
- The transportation of optical table will be finished by end of 2007.
- All we can do without beam will be finished before beam commissioning.
- We need some study about real background after beam on.
- First beam size measurement will be performed in 3 months after beam delivered to IP (if no trouble!)

Thank you.