

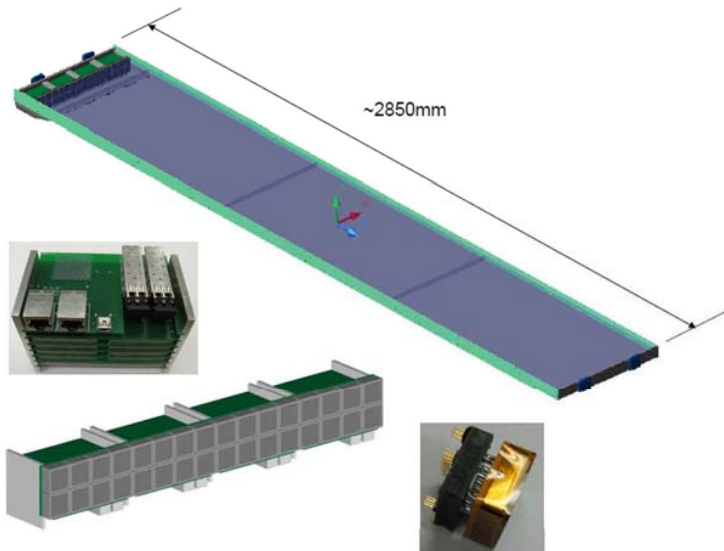
# Update on Fermilab T-1019 Beam Test Preparations

**MEMORANDUM OF UNDERSTANDING  
FOR THE 2011 – 2012 FERMILAB TEST BEAM FACILITY PROGRAM**

**T-1019**

**Performance confirmation of the Belle II  
imaging Time Of Propagation (ITOP) prototype counter**

August 24, 2011



11.	Dec 7 - Dec 13	★ <b>T1015</b> Dual Readout Calorimetry	Primary	2-B	Gatto
12.	Dec 14 - Dec 20	<b>T1015</b> Dual Readout Calorimetry <b>T1019</b> Belle II ITOP counter prototype evaluation	Primary	2-B	Gatto Varner
13.	Dec 21 - Dec 27	<b>T1019</b> Belle II ITOP counter prototype evaluation	Primary	2-C	Varner
14.	Dec 28 - Jan 3	<b>T1019</b> Belle II ITOP counter prototype evaluation	Primary	2-C	Varner
<b>2012</b>					
15.	Jan 4 - Jan 10	★ <b>T958</b> FP420 Fast Timing Group	Primary	2-B	Brandt
16.	Jan 11 - Jan 17	★ <b>T979</b> Fast Timing Counters for PSEC	Primary	2-B	Albrow

20.	Feb 8 - Feb 14	Facility in Use: EDIT 2012			
21.	Feb 15 - Feb 21	Facility in Use: EDIT 2012			
22.	Feb 22 - Feb 24	Facility in Use: EDIT 2012			
23.	Feb 27 - Mar 4	★ <b>T1008</b> Super B Prototype ★ <b>T1015</b> Dual Readout Calorimetry	Primary	2-BC	Posocco Pauletta
24.	Mar 5 - Mar 13	No Beam Available: Accelerator Shutdown			
25.	Mar 14 - Mar 20	No Beam Available: Accelerator Shutdown			
26.	Mar 21 - Mar 27	No Beam Available: Accelerator Shutdown			
27.	Mar 28 - Apr 3	No Beam Available: Accelerator Shutdown			
28.	Apr 4 - Apr 10	No Beam Available: Accelerator Shutdown			
29.	Apr 11 - Apr 17	No Beam Available: Accelerator Shutdown			
30.	Apr 18 - Apr 24	No Beam Available: Accelerator Shutdown			
31.	Apr 25 - May 1	No Beam Available: Accelerator Shutdown			
32.	May 2 - May 8	No Beam Available: Accelerator Shutdown			

Gary Varner  
University of Hawaii  
October 5, 2011

# Schedule Overview

11.	Dec 7 - Dec 13	★ <a href="#">T1015</a>	Dual Readout Calorimetry	Primary	2-B	<a href="#">Gatto</a>
12.	Dec 14 - Dec 20	<a href="#">T1015</a>	Dual Readout Calorimetry	Primary	2-B	<a href="#">Gatto</a>
		-	Belle II iTOP	Primary		<a href="#">Varner</a>
13.	Dec 21 - Dec 27	-	Belle II iTOP	Primary		<a href="#">Varner</a>
14.	Dec 28 - Jan 3	-	Belle II iTOP	Primary		<a href="#">Varner</a>
<b>2012</b>						
15.	Jan 4 - Jan 10	★ <a href="#">T958</a>	FP420 Fast Timing Group	Primary	2-B	<a href="#">Brandt</a>

## Dec 12 – 15:

1. Get badged/safety training
2. Unpack, confirm cosmic running (staging)

## Dec 15 – 20:

1. Can start running parasitically, if/when ready

## Dec 21 – Jan 3:

**2 dedicated weeks running**

# Work items

- Iterating on lengths of cables
  - DC/HV no problem
  - CAT-7/CAT-5 FTSW possibly problematic
- Cooling system – needs discussion
- Shipping info – Fermilab contact identified
- 12 versus 24 hour running (decision Nov. 10)
- Others? (staging area outside RadCTRLarea?)

# Tentative!!

## 2011 beam test Participants

Name	Institution	Dates	Capacity	E-mail	Badging/Training Status	Comment
Matthew Andrew	Hawaii		elec expert	mza@phys.hawaii.edu	none	
Yoshinori Arita	Nagoya			arita@hepl.phys.nagoya-u.ac.jp	none	
Tom Browder	Hawaii			teb@phys.hawaii.edu	full renewal?	
Shigeki Hirose	Nagoya			shigeki@hepl.phys.nagoya-u.ac.jp	none	
Casey Honniball	Hawaii			cih@hawaii.edu		
Yasuyuki Horii	Nagoya			yhorii@hepl.phys.nagoya-u.ac.jp	none	
Naoto Kiribe	Nagoya			naoto@hepl.phys.nagoya-u.ac.jp	none	
Toru Iijima	Nagoya			ijima@hepl.phys.nagoya-u.ac.jp	none	
Kenji Inami	Nagoya		TOP convenor	kenji@hepl.phys.nagoya-u.ac.jp	none	
Kodai Matsuoka	Nagoya			matsuoka@hepl.phys.nagoya-u.ac.jp	none	
Kurtis Nishimura	Hawaii		elec expert	kurtisn@phys.hawaii.edu	none	
Marc Rosen	Hawaii		mech expert	rosen@phys.hawaii.edu	full renewal?	
Alan Schwartz	Cincinnati			alan.j.schwartz@uc.edu	none?	
Kazuhito Suzuki	Nagoya		mech expert	kazuhito@hepl.phys.nagoya-u.ac.jp	none	
Gary Varner	Hawaii	Dec. 9 - Jan. 4	Spokesperson	varner@phys.hawaii.edu	Online renewal, badge to be issued	
Christina Yee	Hawaii			cyeel0@gmail.com	none	

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**Once you know dates – please tell me. Badging/training will need to be coordinated**

# Summary

- I arrive Chicago Dec. 9. However Dec. 9-10 I will be attending LAPPD Collaboration meeting at Argonne
- Since many items require Spokesperson approval, I don't suggest arriving much before 12/10.
- If we only get 12 hours/day (spread over 14 hours), we have too many people
- A note with webpage/information will go out this weekend. Since our running period coincides with the US holiday season, any necessary training will need to be coordinated

# Back-up

## FERMILAB TEST BEAM FACILITY

Contact

ELogs

Schedule

MOUs

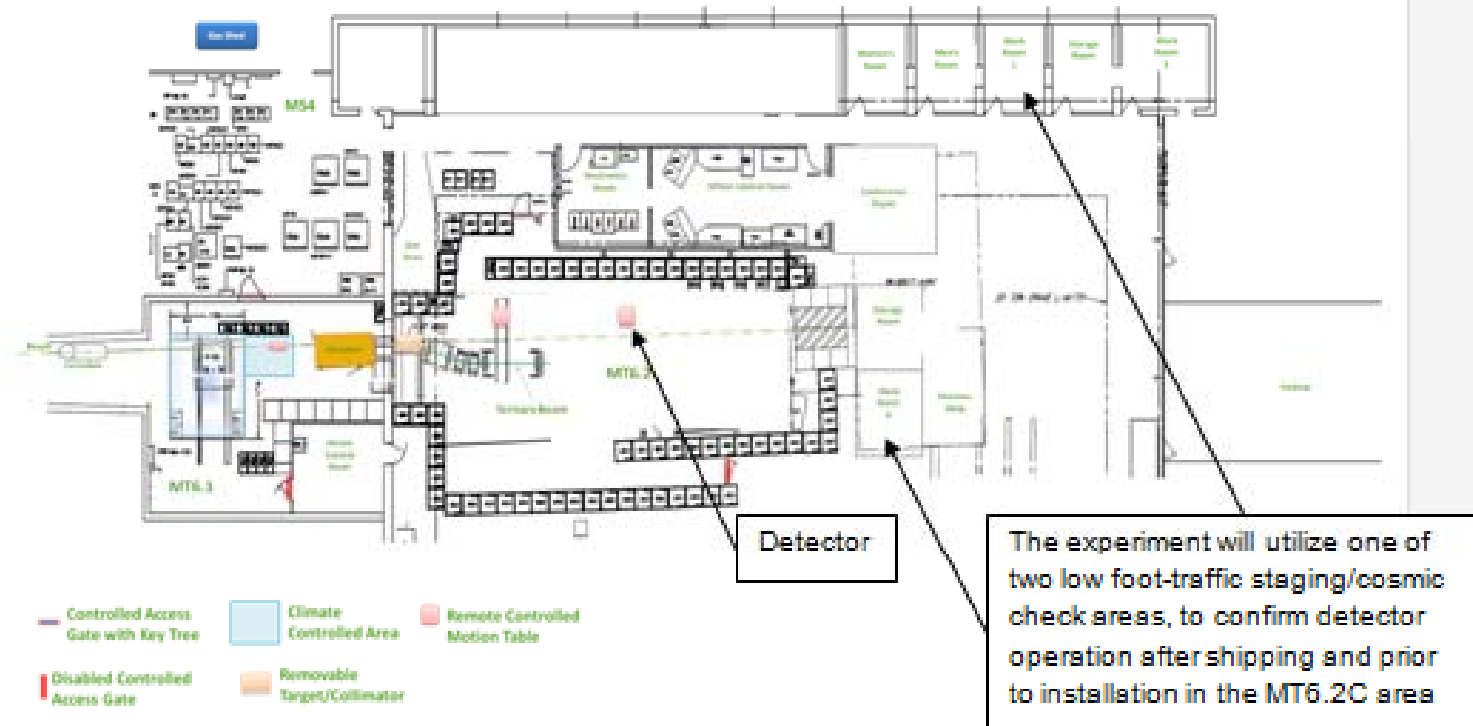


# Staging Area

## APPENDIX I: MT6 AREA LAYOUT

Given the girth of the iTOP module, and the desire to study different emulated Belle II polar angle -impact positions on the detector, ~~we propose to~~ the experiment will set up and operate from movable stage denoted Table #2 and located in MT6.2C.

### MTEST AREAS



# MT6.2C Area



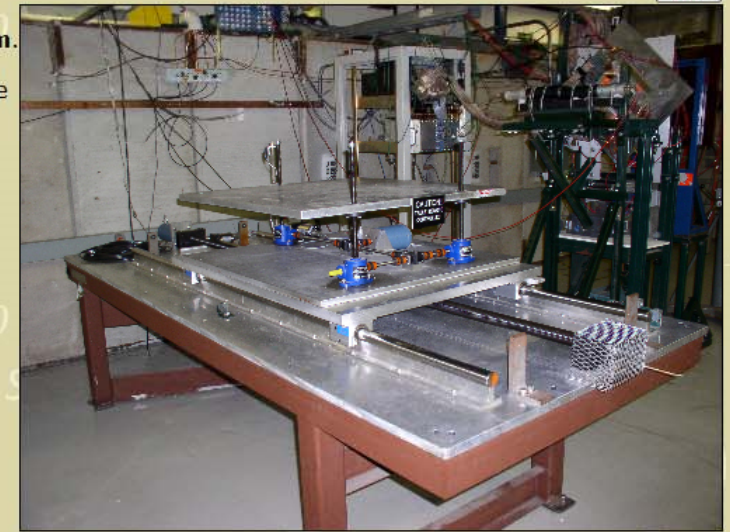


# Movable Table 2 – rotary stage atop?

## Table 2

Table 2 is the downstream table in Section 2 with a small platform measuring **3sqft or 92cm x 92cm**. for both horizontal and vertical motion. It is rated for approximately **500 lbs**. It currently sits at MT6-2C, but it can be moved as desired. The control boxes are mounted on the table, which is where the crash button is. This table has continuous variability in speed.

The control panel for automated motion is in the rack next to the FTBF DAQ computer in the control room. (Used for **both** motion tables) If it needs to be reset for any reason, just push in the crash button and pull it out again. The position of the tables is determined absolutely, so there will be memory of their current location after power out.



The display will come up with an option for horizontal or vertical motion of either of the tables. It is a touch sensitive screen, so just press the motion you want to control. The next screen will show the current position, and will have jog buttons, limit switch displays, and a 'GO TO' entry point. If you just want to jog the table and watch the motion, then turn the video display above the control panel to view the table you are interested in, push the jog button in the direction you want to move, and let go when you are satisfied to the position. The limit switch buttons will light up when you have reached a limit.

If you find the readback seems to get confused and reports impossible numbers, reset the system by hitting the crash button and pull it out again.

If you want to go to a set position, then press the number value below the 'GO TO' button (don't press the Go TO button yet!). That will bring up a key pad where you can enter the desired position to within tenths of a millimeter. Then hit the RETURN button to bring you back to the main page. Hit the GO TO button if you are satisfied and the table should go to the desired location. For this, downstream table, you can also change the velocity in a similar fashion.

If there is ever any question of safety, please crash the power button on the control panel (if you are in the control room) or on the control box (if you are in the enclosure).

# Next Steps...

## The MOU Approval Process

Although approximate times are given, this process is largely dependant upon the response of the experimenters.

1. The Spokesperson or Physicist In Charge of Beam Tests fills in the template and submits this first draft MOU to the [FTBF Coordinator](#).
2. **Round 1:** *Typically takes 1 week*
  - The FTBF Coordinator checks over the MOU for format, wording, spelling, grammar, etc. and does the first pass for issues which may be incorrectly worded, need clarification, or cannot be fulfilled. The coordinator also checks for missing information.
  - At this time, the coordinator will request a number for the experiment from the Directorate's Office of Program Planning.
  - Then resubmits it to the experiment for confirmation.
3. **Round 2:** *Typically takes 1 - 1.5 weeks*

Upon receiving the draft back from the experiment, the FTBF Coordinator will again check for formatting and other errors, and forward the draft to the rest of the FTBF managers, the Directorate Office of Program Planning, and the head of Detector R&D.
4. The FTBF Coordinator will combine responses from the above parties into another draft and (if significant) re-submit to the experimenters for confirmation. If changes are insignificant, the coordinator may choose to proceed directly to round three, without waiting for a response from the experiment.
5. **Round 3:** *Typically takes 2 - 4 weeks*

The FTBF Coordinator forwards the draft to the following people. These people forward the draft to their own relevant reviewers for feedback, all of which is collected by the [FTBF Coordinator](#). This process often takes several rounds, with many drafts being re-submitted.

  - FTBF Deputy Coordinator
  - Directorate Office of Program Planning Head
  - Directorate Office of Program Planning Administrator
  - Particle Physics Division Head
  - Particle Physics Division Office of Detector R&D
  - Particle Physics Division Senior Safety Officer
  - ES&H Section Head
  - ES&H Section Representative
  - Accelerator Division Head
  - Beamline Expert
  - Accelerator Division Operations Department Head
  - Computing Division Representative
  - Business Services Section Emergency Response Representative
6. **Round '4':** *Typically takes 2 weeks*

Once all the above parties are in agreement, the FTBF Coordinator will print out a hard copy and escort it to the following people to be signed. (As this is a rather important document, and these are extremely busy people, it can often take days before the document is read, signed and returned to the coordinator.)

  - Experiment Spokesperson
  - Particle Physics Division Head
  - Accelerator Division Head
  - Computing Division Representative
  - ES&H Section Head
  - Associate Director for Research
  - Associate Director for Accelerators
7. Once signed, the Directorate Office of Program Planning Administrator, scans the document, files it, and distributes it to all relevant parties.

# Data Taking Strategy

- I'm a little concerned about manpower profile (too many during certain times and too few at others)
- Current running is 12 of 14 hours/day (“1 or 2 shifts”)
- If go to 24/7, more shifters, otherwise...
- 100-500k evts/shift. 10 scan points in 10 days
  - Conservatively. Will add more points/more statistics if time/beam permits, but I propose this as our minimal mission success criteria