

Index Panel

SLAC's Software Engineering Newsletter

SLC Control

<input type="checkbox"/>	INDEX										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
											<input type="checkbox"/>			
											<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>											<input type="checkbox"/>	<input type="checkbox"/>	

Program

November 5, 1990

All that Fits is News to Print

Vol. 4, No. 31

New Luminosity Summary Display

October 31, 1990

Author: Debbie Ohman

Subsystem: SLC

User Impact: Moderate

Panel Changes: One

Documents: Yes

Help File: No

A new Luminosity Summary display will soon be available for the updating display monitors in MCC.

It is selected using the

LUMM DISPLY

 button on the CUD CONTROL PANEL. The display consists

of one plot with four curves showing electron and positron intensity at the IP, Z's per hour, and integrated Z's for the previous 4 hour period. The data scrolls from left to right across the plot with the most recent data on the rightmost edge of the plot.

To avoid redrawing the entire display for each point, a portion of the plot on the right hand side is reserved for the most recent data. The new data is plotted point by point until the curve reaches the right axis, at which time all curves are shifted to the left. The amount of shift is equal to $\frac{1}{8}$ th of the total time interval on the horizontal axis. The process then repeats with the most recent data again being added to the right.

The display is drawn using a new display utility which may be used to build displays of other parameters in the future as a need is identified.

Updating BPM Gold Orbit from Previously Saved Orbits

November 1, 1990

Author: Daniel Van Olst

Subsystem: SLC

User Impact: Small

Panel Changes: No

Documents: No

Help File: Yes!

It is now possible to update part of a BPM gold orbit from a previously saved BPM reference configuration.

In the first release of the BPM Gold Orbit software, updates were only permitted from recently acquired BPM data. Now, you can take your favorite NORMAL BPM orbit saved at any time in the past, and use it to update (overwrite) a range of micros in a copy of the current BPM gold configuration.

The same button is used as before (UPDATE GOLD PARTL on the BPM GOLD REFERENCE ORBIT panel). While saving a gold orbit, you will be asked if you wish to update the gold from a previously saved configuration, or from recent BPM data. If you choose to update from a previously saved configuration, you will be asked for a normal configuration number.

For more information on choosing BPM gold reference orbits, see HELP on the BPM GOLD REFERENCE ORBIT panel.

Wire Scanner Update

November 1, 1990

Author: *Sanchez & Hendrickson* **Subsystem:** *SLC*
Panel Changes: *None* **Documents:** *No*

User Impact: *Small*
Help File: *No*

There have been a number of improvements to the wire scan software.

Skew scans:

The skew scan displays have been updated to include the beam intensity (TMIT) measured on each wire scan. In addition, there is a graph of the calculated beam ellipse, with the wire measurements on each of the three axes, X, Y, and U superimposed. Since the beam size measured by the wire is a projection onto the axis of the scan, the wire measurements typically extend past the edges of the calculated ellipse. The display may be printed in graphics or text mode.

For the Final Focus WS4 wires, the software also reports the effective angular divergences at the IP. This calculation is now reported even if there is insufficient data for the full skew measurement.

Beamstrahlung Readout for WS4 Wires

The wire scan software has been modified to allow the WS4 scanners in FF11 and FF01 to use the flux from the beamstrahlung monitors as the signal for the Gaussian fit. The beamstrahlung data option may be toggled on or off from the scan options panel, accessible from the wire scan panels.

LI02 Scan Changes

In order to reduce conflicts in LI02 wire scans where all scanners use the same downstream Ion chamber readout, the wire scan software has been modified to wait for each wire to reach its PARK position before the next wire may be scanned. This is selectable by setting a WIRE HSTA bit in the database. In addition, in an effort to reduce beam trips, a 2 second wait is added after scanning LI02 wires. This may be modified as more is learned about avoiding trips.

Additional Emittance Calculation

Mark Woodley has added an alternate emittance calculation developed by Chris Adolphsen to the Emittance Measurements Summary Display. This is to facilitate comparison between the two methods.

Improvements to Saving Injection Gold Configurations

October 26, 1990

Author: *Michael Glaviano***Subsystem:** *SLC***User Impact:** *Small***Panel Changes:** *Few***Documents:** *No***Help File:** *None*

The software for saving Injection Gold Orbit has been modified to exclude offline or bad BPMs. Now both the hardware status (HSTA) and the status of the data from each BPM are checked at the time a Gold Orbit configuration is saved. If either status is bad, the BPM is flagged as such in the saved configuration file. This will result in the injection software ignoring that BPM during subsequent calculations.

If a configuration is displayed (from the injection panel) and the data field for a BPM is filled with asterisks, it is an indication that that BPM was not good (in the sense described above) when the gold orbit was saved. Also if the words "BAD GOLD" appear on any button on the BPM SETUP panel off of the INJECTION panel, the associated BPM will not be used in any injection calculations regardless of how its HSTA is set in the database.

All Toroid Display Group

November 1, 1990

Author: *Linda Hendrickson***Subsystem:** *SLC***User Impact:** *Small***Panel Changes:** *Few***Documents:** *No***Help File:** *No*

In order to read out all toroids in the SLC on the same beam pulse, a display group with an associated public BPM definition has been added. The public BPM definition is currently being used by the BPM Sampler for history buffer plots of toroid data. In the future, the BPM Special PYIELD and EYIELD displays may be modified to use the new display group.

The public BPM definition for "All TOROID Only" may be accessed from the BPM Calibration panel. It is only intended for reading out Toroid data; when BPM data is read or calibrated, the results may be unpredictable.