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SLC Control Program

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Status Display Summary Update

March 31, 1989

Author: *Len Moss* **Subsystem:** *All* **User Impact:** *Moderate*
Panel Changes: *Few* **Documents:** *No* **Help File:** *No*

Several changes have been made to the Status Display Summary (SDS):

- A second line has been added to the title of the device list displays to show the device class (super summary row), region (super summary column), and problem severities for the devices in the list.
- A new button has been added to the touch panel to display all problems, including those which have been acknowledged and deferred, in the specified row(s) and column(s) (i.e., all devices with severities other than `OK` or `NO_SEV`).
- SDS can now switch between different running modes without restarting the SCP. This is accomplished by selecting the appropriate version of the SDS control panel from the special display panel. Note that the SCP super summary displays for each running mode are available from the corresponding SDS control panel, and so the buttons for these displays have been removed from the special display panel.

Modelling System and Button Macros

April 3, 1989

Author: *Tom Himel* **Subsystem:** *Modelling* **User Impact:** *Small*
Panel Changes: *Few* **Documents:** *No* **Help File:** *No*

When using the modelling system (steering, COMFORT, lattice diagnostic...) One goes from the INDEX panel to the MODEL SYSTEMS INDEX. From there, one picks a modelling line (e.g. e^- NRTL SDUMP). In the past this took one directly to the MODEL APPLICATIONS panel, where you picked whether you wanted to steer, or run comfort, etc. Unfortunately, you couldn't do this with a button macro because most of the buttons on the MODEL SYSTEMS INDEX had the same name (since they took you to the same panel).

Now the MODEL SYSTEMS INDEX panel has been changed so that you select a line (which is then indicated with a bar on the button) and then hit the MODEL APPLICATIONS PANEL button to go to that panel. This then allows button macros to use this panel without problem. The first example of such a macro is the FIT BETATRON OSCILLATION button available from the LINAC BUTTON MACROS panel which in turn is available from the LINAC INDEX. This uses the lattice diagnostics to fit and print out the size of the betatron oscillations in the LINAC.

Display of Feedback Devices

April 3, 1989

Author: *Tom Himel* **Subsystem:** *Feedback* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *No*

On the Feedback TEST AND RUN panel there is a button [CONTRL DEVICE DISPLY] which gives a display of the devices that a feedback loop controls. In the past this only worked for position and angle loops. It has now been extended to work for all loops. It only gives a list of the devices, not their desired and actual values (as is done for the position and angle loops).

Micro Active Mask

April 4, 1989

Author: *Nancy Spencer* **Subsystem:** *Accelerator* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *None*

A bug has been fixed in the routine that clears/sets the mask of active micros. This fix should improve the performance of IPL ALL as Paranoia will not try to communicate with micros that are in the process of being booted.

Partial Configuration Load & Activate

April 5, 1989

Author: *Lou Sanchez-Chopitea* **Subsystem:** *SLC* **User Impact:** *Medium*
Panel Changes: *Few* **Documents:** *No* **Help File:** *None*

The Configuration facility has been modified to allow partial loading and activation of configuration files. These features are accessible from two new buttons [LOAD PARTIL CONFIG] and [ACTIVT PARTIL CONFIG] on the Configuration panel. The user is prompted for a list of devices in terms of their primaries and micros to load or to activate. These lists may contain either or both of the VMS wildcard characters (% and *) and can contain many items separated by commas. To obtain a list of primaries and micros in the configuration file answer 'LIST' to the prompt and the list will be displayed and the prompt reissued. If the load results in no items being loaded, this is signalled. The lists are cleared if a different configuration is loaded or activated, otherwise they are the defaults.

Two additional changes have been made to the Configuration software. An activate operation will offer the option of trimming the devices just activated. The loading of injection configurations from the panel has been disabled and a warning is issued if attempted.

LEM III

April 5, 1989

Author: *M. Woodley* **Subsystem:** LEM **User Impact:** *Medium*
Panel Changes: *Few* **Documents:** *No* **Help File:** *Yes*

Version 3 of the LEM software package has been released. This version incorporates the optional use of the individual klystron energy calibration factors which are computed by the Lattice Diagnostics software. To

select this new option, use the new [KLYS ENERGY CALIBS] button which resides on the LEM Energy Options panel. To avoid confusion, the button which is used to enter the usual overall LEM fudge factor value (also on the LEM Energy Options panel) has been relabeled as [LEM FUDGE FACTOR].

The handling of *offline* magnets by LEM has also been changed in this release. Now when a SCALE & TRIM MGNTS operation is performed by LEM, neither the BDES nor the EMOD values for *offline* magnets will be changed so that the KMOD value implied by BDES and EMOD will not be changed. Magnets which are *offline* will be plotted in yellow with zero values in LEM ZPLOTs; these magnets will have the word "OFF" appended to their actual data in LEM tabular displays.

The new [KLYS ENERGY CALIBS] button also appears on the Klystron Energy Display With Options panel.

BPM Software Fixes

April 6, 1989

Author: *Linda Hendrickson* **Subsystem:** *BPM* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *No*

A problem occurred from the BPM measurement panels when the user toggled to BSM data. The device toggle got stuck in a bad state, and a new SCP had to be started in order to recover. This problem has been fixed.

There was a software problem in the BPM Timing function which resulted in bad timing results and produced several error messages. This problem has been corrected.

Using a CUD BPM display corrupted the global BPM calibrations. This bug has been fixed, and in addition, global BPM calibrations have been implemented for CUD so that the correct global calibration is automatically selected when the user selects a CUD BPM display. The SAVE BPM CONTXT and CREATE MEAS DEF buttons have been removed from the CUD BPM panel, as they are no longer needed.

Wire and Beam Scan Software

April 6, 1989

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

1. A new beam finding function is available to determine beam positions by fitting data from the long BPMs in FB69. This routine accounts for changing incoming beam angles and has a better resolution than the previous version. Users should be aware that there are offsets between the positions of the electron and positron beams and the software does not correct for these offsets.

   On the Final Focus Beam Scan and Beam Collide panels the FIND BEAM POSITN button has been changed to read FIT BEAM POSITN and run the new routine. If the IP2BEAM BPM definition is in effect, the software attempts to find and display the positions of both beams. Otherwise the software determines the position of the beam which corresponds to the current BPM definition. The Wire Scan panel still provides access to the old beam finder on the FIND BEAM POSITN button.

2. The beam deflection software has been modified to provide the WIDTH SQUARED parameter for correlation plots usage. The PEAK parameter is no longer available from deflection fits.

3. Whenever a successful waist scan is performed, waist scan parameters are written to a new flat data file, SLCFF:WAISTDATA.DAT. It will be possible to use MATLAB to plot this data.

The SLC Commissioning Calendar does not appear this week as the operating schedule is being determined on a daily basis.