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IbCaloPanel PVSS component

Description

IbCaloPanel is a graphical user interface designed to:

- ease the configuration of different hardware parameters (PM HV, LED voltage, etc) for an arbitrary group of PM / LED channels
- serve as Graphical viewer / editor of certain CaloDb tables content (PM IDs, HV settings, hardware mappings, etc)

GUI main window is implemented as active two-dimensional map of calorimeter cells with an additional line of several menus on top of it (Menus Line henceforth).

Installation (online cluster, Windows)

- Set environment variable TNS_ADMIN (Start-> Control Panel -> System -> Advanced -> Environment Variables -> New ...). It should point to G:\calo\db directory. This variable is used by PVSS CaloDb API PVSSCaloDb.dll ((c) Yu. Guz), which is included in the installation kit and serves to communicate with LHCb Online Oracle server.
- Start PVSS Project Administration
- Start PVSS project, where IbCaloPanel component is to be installed. Project should be upgraded with JCOP Framework Component Installation Tool.
- Start Framework Installation Tool Panel and follow standard procedure of components installation. The component itself can be found in directory G:\calo\ecal\IbCaloPanelComp

How to start

Add new manager using PVSS Console. Dollar parameter \$iCaloType allows to define the sub-calorimeter type. Option's line could look like

- "-p objects/IbCaloPanelMainWindow.pnl,\$iCaloType:1" for ECAL
- "-p objects/IbCaloPanelMainWindow.pnl,\$iCaloType:2" for HCAL

By default GUI is started in User mode, when all operations with hardware are disabled. Also user have no permissions to update CaloDb.

GUI main window

- when the mouse cursor is moved over the cell, the cell background is highlighted by orange color. If mouse cursor points upon the same cell for 1-2 seconds, tooltip appears. Its text displays cell coordinates in the standard form (Section Column/Raw)
- left click on the cell is to display cell coordinates and id of LED serving given cell in Menus Line, "Info" frame
- right click on the cell is to call expert window with detailed information about various hardware parameters for given cell ("Cell Details" henceforth)

Selector window

Can be called by pressing "Select Groups of Channels" button in the very left of the Menus Line. It allows to select single cells and group of cells according to the different parameters: cell coordinates, front-end board

crate/slot/ADC channel, id of the LED, etc. All buttons "SELECT xxx" can be used both to select and to de-select: first pressing selects certain area, the second one - deselects it.

Selection of single cell by its coordinates

In the frame "By LED/PIN/CELL/PMT name" enter coordinates of the cell in the field on the left of the button "SELECT CELL" and press this button. If cell with required coordinates exists it will be singled out by bold border or cyan color depending on the status of Radiobox "Selection Mark" (on the right). At the same time Crate, SLOT, Chan fields in the frame "By Feb" will be updated with the corresponding parameters for given cell. Cell coordinates should be like e.g. O 0/28 Sequences O/0/28 or O 00/28 will not be recognized.

Selection of cells by Crate/Slot/readout channel

In the frame "By FEB" enter crate, slot in the crate, ADC channel (as marked on the signal cable label) and press SELECT button. At the same time field with cell coordinates in the frame "By LED/PIN/CELL/PMT name" will be updated too. If Chan is set to -1, all cells of the FEB will be selected; Setting Chan to -1 and SLOT to -1 allows to select all cells in the current crate. Optionally relative FEB id instead of slot and readout order instead of ADC channel can be considered in the fields SLOT and Chan (radioboxes SLOT/FEB and Chan / R/O order)

Selection of single cell by mouse

Tick "Single Channel" on the radiobox in "Mouse Selection" frame. After that left mouse click on the not-selected cell will select it; left mouse click on the selected cell will deselect it. To exit this mode, tick "None" on the same radiobox

Selection of the group of cells

Tick "Arbitrary group" on the radiobox in "Mouse Selection" frame. After that rectangular area can be selected / deselected by first and second left mouse clicks. To exit this mode tick "None" on the same radiobox

Mapping / Status View menu

is a cascade button allowing to choose which parameter is to be presented in different colors on the map of calorimeter cell. Button is located in the "View" frame. Menu "Maps" allows to select hardware mapping views, menu "Status" (currently disabled) is to represent different settings as they read out from hardware.

- "M:Cells" is to view a trivial map of calorimeter cell, which is drawn by default
- "M:Leds" allows to draw red grid showing areas served by different LEDs
- "M:PM Control mapping"; "M: PM HV mapping"; "M LED Control mapping" is to show mapping of voltage control / distribution boxes outputs: PM HV control cabling; PM voltage distribution cabling; LED voltage distribution cabling
- "M:PM FEB mapping" is to show readout crates and FEBs (PM part)
- "M:LED TSB mapping" is to show LED areas triggered by different LEDTSB units
- "M:PIN FEB mapping" is to show readout crates and FEBs (PIN part)
- "M:PM HV nominal" / "M:PM HV standby" is to show default PM voltages settings in form of control voltage, HV on PM or PM gain. Meaning of colors can be retrieved by clicking on cascade button with question mark "?" (on the very right of Menu Line, below "Close" button) and selecting "Color palette" line.
- "M:LV LED 1" / "M:LV LED 2" is to show default LED intensity settings. Meaning of colors can be retrieved by clicking on cascade button with question mark "?" (on the very right of Menu Line, below "Close" button) and selecting "Color palette" line.

Operations menu

is a cascade button to configure different hardware settings / database defaults for selected groups of cells. If nothing is selected, all calorimeter cells are configured. Currently the only thing enabled is configuration of parameters in the memory of GUI. All settings can be also re-initialized from DB ("Reinitialize All").

Cell Details window

includes 3 sections (from top to bottom): hardware connectivity; individual cell settings (mostly the phototube ones) and settings for the LED (LEDs), serving given cell. All interface allowing to configure hardware settings is currently disabled. The only thing enabled is configuration of parameters like nominal PM HV, nominal PM LV, etc in the memory of GUI. If parameter is different from the database one, corresponding cell of the table is marked by gray color. To restore DB settings, select "SHOW DB SETTINGS" in the combobox "DATABASE" either in the section of individual cell settings or in the section of LED settings

How to exit various windows

Use "Close" button, which is available on each window.

-- IrinaMachikhiliyan - 04 Sep 2008

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