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2017 DCS

Operating the FSM

The FSM can be started from the shortcut FSM2017 in the Desktop/TB2017 folder. Click yes on the popup panel asking for admin rights. Right click on RICHTB. Click on the lock next to the RICHTB state to take the machine.

The FSM can also be started using the shortcut TB_DCS-remote on the pcdege3 windows machine in the control room.

If the state is DEAD, right-click on it and select Restart FSM.

The Select and plot button allows to plot up to 8 variables in the same plot. Keep Ctrl on the keyboard to select more than one variable.

The power supplies overview also allows to operate in conditions where the last and/or the last but one dynode is supplied.

The tracker control and monitoring button allows to switch on/off and to monitor the tracker LV and SiBias. The Go_READY button first switch on the SiBias, then switch on the LV. The Go_OFF button switch off the LV and later the SiBias.

The power supply for the PMTs coupled to the trigger scintillators can be switched on/off using the corresponding button.

Operations with the last dynode powered

In order to control the HV when powering the last dynode, click on the Power Supplies Overview button in the FSM top node panel, then click on the Multi-dynode control and monitoring button.

To change the i0 and v0 settings for the photocatode and the dynodes, write in the text field in the top left part of the panel the voltage value you want to set. Press enter. You should see the new values in the "Settings" part of the panel.

The settings can also be changed when both the photocatode and the last dynode are on. Setting an higher voltage value, first the cathode is ramped up and after a delay based on the cathode settings, also the last dynode is ramped up. Viceversa if a lower voltage is set.

When the HV is off, press the Go_READY button to switch on first the photocatode supply, wait until it is on, and then switch on the last dynode.

Press the Go_OFF button in order to switch off first the dynode and then the cathode.

If vPK is already on, you can also press the On button in the Power Supplies Overview panel (after having changed the settings with the procedure described above).

Fine tuning of the v0 setting for the last dynode

The voltage setting for the last dynode is a fraction f1 of the voltage applied to the photocatode. The value of f1 must be fine tuned from time to time since it can change because of some factors, i.e. the temperature. In order to fine tune the value of f1, the last dynode must be on and there must be no light.

When there is no beam, press the Dy12 scan button. You should see the iMon value of the last dynode decreasing until it is less than 4 uA (or negative).

Recording data

The voltages of the last and last by one dynodes are recording using a LabView vi. Start the TB2017/Read Measurement Data shortcut. Run the vi and save the file in TB2017/data/dynodes folder. The data will be recorded every second until the vi is stopped.

The current of the photocatode and the last dynode are read by multimeters. In order to start the recording of data, start the TB2017/SX-DMM v2.6 shortcut on pclhcb182. Press OK. Do not reduce to icon the window otherwise the software get stuck. In order to save data, press the Stop button and then the Save button. Save the file in TB2017/data/dynodes folder.

-- LhcbTestbeamSupportService - 2017-05-29

This topic: LHCb > RichTestBeamDCS2017
Topic revision: r4 - 2017-06-13 - GiovanniCavallero