Report on the status of the LED's

1. ***TAPES*** { ~315 Finished / 15 Left

→ ***The criterion we are using to verify whether the value of the led of a given block and a given run is changing at some event number, is based on the knowledge of the mean led and its sigma till that particular event. That is if the new value differs more that 3.5 sigma from the previous mean value then there is a change.***

2. PROGRAMMS

a) **Led_array.sf : This routine (led_array) opens the led files and copies the information (<led> , starting event, ending event) into one_dimensional arrays and creates the the pointers with which we can extract these information for each block and event.**
b) **Get_ledav.sf : This routine (get_nledav) returns the led average value for each block and event.**
c) **Emcal_com.inc : In this include file we added the new variables.**
d) **Emcal.ser : In this server file we added the new led files that need to be read.**

→ ***Led_array is called in routine rdempeds and get_nledav is called in routine get_info_em. The code now is reading the led average from the old files only when the new ones are not yet produced.***
→ ***These programs run at glazed with Vitorio's file (broom_events) with the extension rft. With the old files I was using (run3244.raw run3028.dat …) at FN872 now there seems to be a problem (probably something changed and I cannot use these files anymore).***
→ ***To calculate the event_number, at which a change occurred at the value of the Led of a given block, I was using the variable " iev ". But after proccesing Vitorio's file I saw that the actual event number was***

variable " evntnum ". So what I want to test is if these 2 variables while processing a tape are the same.
I cannot do that till I will be able to run again at fsgi02 (there is a problem there too) .

3. DIFFERENCE WITH OLD LED AVERAGE

→ There seems to be a difference of 100 ADC counts between the new and old led averages. These is probably due to the fact that, as we noticed, before there was no pedestal subtraction for the led values of the first spill (that means usually for the first 5 led events) . As before we where using 20 led events to extract the average and the pedestals are ~ 400 ADC counts that gives us the difference of 100 ADC counts.

Next steps

1. **Calculate the Pedestals for every block for 20 RUNS to make sure that they do not change significantly.**

2. **Calculate the sigma of the mean led values for each block for future Use in the Monte –Carlo.**

3. **VERIFY E/P with Broom – like events.Using the new information we have for the led's the we will run myanal to see if the E/P ratio changes or not.**