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Plateau analysis program

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Abstract

Two different programs have been developed to produce straw tubes plateau histograms.

1 Introduction

An automatic procedure [1] connecting Data Acquisition and Slow Control programs has been developed to take under control the behaviour of straw tube detector. This procedure produces a set of data files containing the counting rates of straw tubes for each high voltage value (plaxxxx.dat, xxxx is the correspondig high voltage value). Two different programs are available to produce plateau histograms: **stb_pla** and **Plateau**. These programs are quite similar, but they are written with different languages and use different packages to produce histograms. **stb_pla** has a source code written in c and uses HBOOK [2]; **Plateau** is written in C++ and uses ROOT [3], [4]. In the following sections the general scheme of the two programs is reported and detailed instruction on how to run them are given.

2 Programs structure

For those who are interested, the source and executable codes of both **stb_pla** and **Plateau** programs are available on **osfin1** in the directory named

/data01/users/straw/gianotti/Monitor

For those who are not so curious I would like just to say few words about the programs structure. First of all the programs call the same c routine (**read_db**) to load the database table (stbdb) allowing to associate each counting rate to the right straw tube. Then the programs loop on the different data files and fill the plateau histograms which finally are stored in an output file (**stb_pla.rzf** or **Plateau.root**). The histograms can be displayed using PAW [5] or ROOT.

3 How to run analysis programs

To produce histograms starting from the plaxxxx.dat files, one has to follow these steps:

- to log on **osfin1** machine (finudast account);
- to copy from **fndstb** the plaxxxx.dat data files;

- to run one of the two analysis programs (**stb_pla** or **Plateau**). The program ask for the lower and the upper values of high voltage and for the step used to increase it.

When the execution of the analysis program is over, the histograms are ready to be plot opening the file **stb_pla.rzf/Plateau.root**. For **stb_pla.rzf** file a kumac is available (**plateau.kumac**) that produces a Postscript file containing all the histograms (four per page).

References

[1] V. Filippini, P. Gianotti and E. Pace, FINUDA internal note 51/LNF/ONL/99.

[2] CN/ASD Group, "HBOOK users Guide (Version 4.21)", CERN Program Library Y250. CERN, January 1994.

[3] R. Brun and F. Rademakers, "ROOT - An Object Oriented Data Analysis Framework", Proc. of the AIHENP96 Conference.

[4] R. Brun and F. Rademakers, "The ROOT System", http://root.cern.ch.

[5] CN/ASD Group, "PAW users Guide", CERN Program Library Q121, CERN, January 1995.