

## Laser Lab Program Guide

1. TAC\_1.c
  - a. Overview
    - i. This program opens and initiates the CC-USB as well as the other CAMAC components. The CC-USB creates an event then reads data from each piece of equipment in the CAMAC crate. It saves the data in a file using the run number as a name.
  - b. Equipment:
    - i. CC-USB
    - ii. Ortec AD114 ADC (gets a signal from the Ortec 566 TAC)
  - c. Input
    - i. Run number
      1. The run number is used to name the data file.
    - ii. Events
      1. The events are the number of triggered events.
      2. The definition of a triggered event can be changed in the program.
  - d. Output
    - i. The data is saved in the file data/test\_XXX.dat (where XXX is the run number).
    - ii. Please check the data folder for the last run number or change the file name so old data is not erased.
  - e. Histogramming
    - i. Use make\_ntuple\_TAC\_1.C to histogram
2. TAC\_2.c
  - a. Overview
    - i. This program opens and initiates the CC-USB as well as the other CAMAC components. The CC-USB creates an event then reads data from each piece of equipment in the CAMAC crate. It saves the data in a file using the run number as a name.
  - b. Equipment:
    - i. CC-USB
    - ii. Ortec AD114 ADC (gets a signal from the Ortec 566 TAC)
    - iii. Phillips 7186 TDC
  - c. Input
    - i. Run number
      1. The run number is used to name the data file.
    - ii. Events
      1. The events are the number of triggered events.
      2. The definition of a triggered event can be changed in the program.
  - d. Output
    - i. The data is saved in the file data/test\_XXX.dat (where XXX is the run number).



- i. The data is saved in the file data/test\_XXX.dat (where XXX is the run number).
        - ii. Please check the data folder for the last run number or change the file name so old data is not erased.
      - e. Histogramming
        - i. Use make\_ntuple\_TAC\_4.C to histogram
5. TDC\_1.c
- a. Overview
    - i. This program opens and initiates the CC-USB as well as the other CAMAC components. The CC-USB creates an event then reads data from each piece of equipment in the CAMAC crate. It saves the data in a file using the run number as a name.
  - b. Equipment:
    - i. CC-USB
    - ii. Phillips 7186 TDC
    - iii. LeCroy 2249A ADC
  - c. Input
    - i. Run number
      - 1. The run number is used to name the data file.
    - ii. Events
      - 1. The events are the total number of events created by the CC-USB
  - d. Output
    - i. The data is saved in the file data/test\_XXX.dat (where XXX is the run number).
    - ii. Please check the data folder for the last run number or change the file name so old data is not erased.
  - e. Histogramming
    - i. Use make\_ntuple\_TDC.C to histogram
6. TDC\_2.c
- a. Overview
    - i. This program opens and initiates the CC-USB as well as the other CAMAC components. The CC-USB creates an event then reads data from each piece of equipment in the CAMAC crate. It saves the data in a file using the run number as a name.
  - b. Equipment:
    - i. CC-USB
    - ii. Phillips 7186 TDC
    - iii. LeCroy 2249A ADC
  - c. Input
    - i. Run number
      - 1. The run number is used to name the data file.
    - ii. Events
      - 1. The events are the number of triggered events.

2. The definition of a triggered event can be changed in the program.

d. Output

i. The data is saved in the file data/test\_XXX.dat (where XXX is the run number).

ii. Please check the data folder for the last run number or change the file name so old data is not erased.

e. Histogramming

i. Use make\_ntuple\_TDC.C to histogram