

GUIDELINES

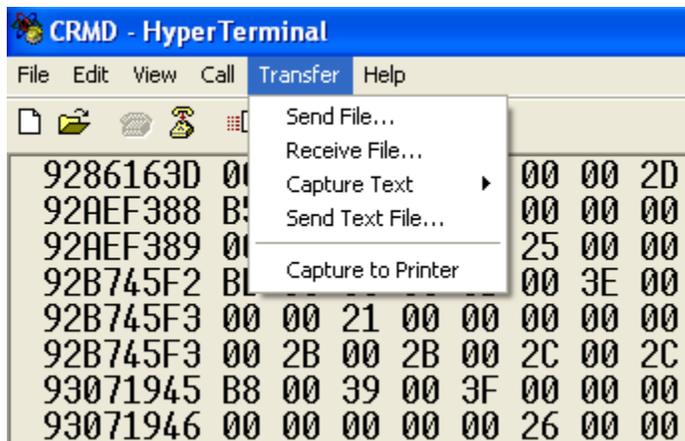
1) Power the DAQ board.



2) Go to the CRMD icon () on the desktop i.e. the Hyper Terminal.

3) Type in the command **CD** in order to stop the streamline of the data.

4) To start recording your set of data go to Transfer → Capture Text

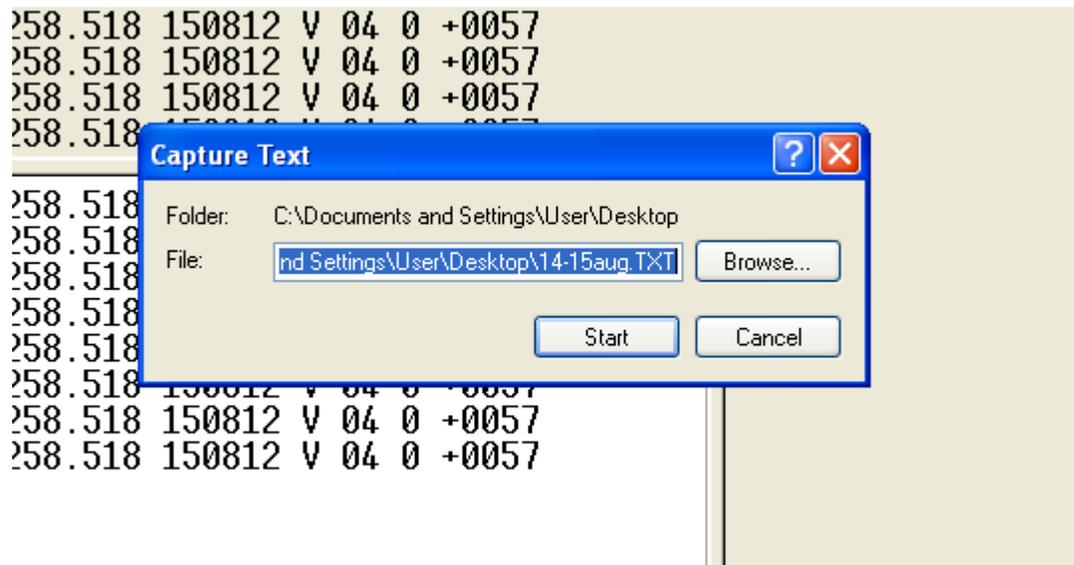


5) **NOTE:** Start the data only when the data Status is Valid i.e. in the DG command the Status should be— ‘ A ’

DG
DG

```
Date+Time: 15/08/12 09:45:06.013
Status:    A (valid) → Valid set of data
PosFix#:   1
Latitude:  18:33.584130 N
Longitude: 073:49.544079 E
Altitude:  568.619m
Sats used: 8
PPS delay: +0057 msec      (CE=1 updates PPS,FPGA data)
FPGA time: C55916E7
FPGA freq: 25000000 Hz     (Cmd V3, freq history)
ChkSumErr: 0
```

6) An option of **Browse** will be seen on the screen and you may save the data where you desire by selecting the data path and the name for your file which will be stored in the **.txt** format. Then press **START**.



7) Now whatever commands are typed in the Terminal will be recorded in the **.txt** file.

8) Enter the set of commands given in the following order →

H1, H2, DG, DS, DC, DT, TH, TI, BA, V1, V2, ST 2 5, TL, SA 1

(The meaning of the commands will be given in a separate sheet.)

9) Once the above commands are typed , type in **CE** in order to start the streamline of data.

10) Now take the data for the desired time. Once the data is started, **DO NOT** type in any other commands.

11) Once you wish to stop your data, type in the command **CD**.

12) Then type in again the same list of commands →

H1, H2, DG, DS, DC, DT, TH, TI, BA, V1, V2, ST 2 5, TL, SA 1

13) Then go to Transfer → Capture Text → Stop.

(The data will now stop being recorded in your text file)

14) Now your text file is ready to be uploaded.

15) Now go the website → <http://www.i2u2.org/elab/cosmic/data/upload.jsp>

Cosmic Ray e-Lab

Project Map Library Upload Data Posters Site Map Assessment

CRpune Log out

Upload raw data collected by your cosmic ray detector.

- Select the **detector** associated with the data you are uploading.
- Click **Choose File/Browse** to locate the data file on your computer.
- Click **Upload** to upload the file.

Please **do not** upload files larger than 2 GB in size. You'll have to split them up into smaller pieces. Questions? See the [FAQ](#)

Choose detector

6609 6610

Raw Data File: 14-15aug.TXT

Optional comments on raw data:

16) In the option Choose the detector → Select 6609.

17) Then go to Choose File → *Select your file* → Open (Your file will be seen as a text format near the same option) → Upload.

(The data to be uploaded may take awhile depending on the size of your **.txt** file.)

18) Once uploaded it will look like →

Cosmic Ray e-Lab CRpune Log out

Project Map Library **Upload** Data Posters Site Map Assessment

Upload results

If you have **changed** the configuration of your detector since your last upload, please check to make sure that your [Geometry Information](#) was updated correctly.

File Summary:

Your data was split into 1 day spanning from:
2012-07-31 11:19:38.0 to 2012-07-31 16:42:42.0

Chan 1	Chan 2	Chan 3	Chan 4
Total Events: 345839	258651	364112	373711

Average latitude: 18.335899
Average longitude: 73.495387
Average altitude: 570

19) Then go to Data → Lifetime → IUCAA Pune University Campus → Select your Uploaded File → Run the Lifetime Study.

Cosmic Ray e-Lab CRpune Log out

Project Map Library Upload **Data** Posters Site Map Assessment

View Data Performance Flux Shower **Lifetime** View Plots Analyses

Choose data for lifetime study.

One way to classify objects is by measurable characteristics. All electrons have the same mass, charge and spin. What characteristics can you measure about the cosmic ray particles that reach Earth's surface? These unstable particles decay with a characteristic [signal](#) in a characteristic time. Can you measure it? If so, that characteristic is one way to determine what the particles are.

Gain confidence by running a [practice analysis](#).

Quick Searches: IUCAA Pune University Campus Pune IND All
City Search Data

Results 1 - 1 of 1 for school IUCAA Pune University Campus (Searched 78 files in 0.060 seconds)

[Clear selected data](#)

▼ IUCAA Pune University Campus
Pune, IND
78 data files: 0 blessed, 75 stacked, 36,333,563 total events.

- ▶ November 2011, 27 files
- ▶ April 2012, 25 files
- ▶ May 2012, 3 files
- ▶ July 2012, 1 file
- ▼ August 2012, 22 files Select: All None

Detector 6609, 22 files Select: All None

<input type="checkbox"/> Wed 01 228,010 events	<input type="checkbox"/> Wed 01 262,162 events	<input type="checkbox"/> Wed 01 533,123 events	<input type="checkbox"/> Wed 01 245,169 events
<input type="checkbox"/> Wed 01 452,491 events	<input type="checkbox"/> Wed 01 268,186 events	<input type="checkbox"/> Thu 02 238,915 events	<input type="checkbox"/> Thu 02 177,274 events
<input type="checkbox"/> Thu 02 177,274 events	<input type="checkbox"/> Fri 03 575,869 events	<input type="checkbox"/> Fri 03 925,338 events	<input type="checkbox"/> Sat 04 887,256 events
<input type="checkbox"/> Sun 05 508,779 events	<input type="checkbox"/> Tue 07 693,092 events	<input type="checkbox"/> Tue 07 805,338 events	<input type="checkbox"/> Wed 08 648,020 events
<input type="checkbox"/> Wed 08 2,843,327 events	<input type="checkbox"/> Sat 11 3,014,888 events	<input type="checkbox"/> Sun 12 136,730 events	<input type="checkbox"/> Sun 12 552,996 events
<input type="checkbox"/> Mon 13 2,070,946 events	<input type="checkbox"/> Tue 14 2,095,180 events	Your File	

Once Selected your data Run the Lifetime Study

Analyze
[Run lifetime study](#)
[Tutorial on lifetime study](#)
[Step-by-step instructions](#)
[FAQs](#)
States include provinces and countries. Enter the [abbreviation](#)

Related Milestones
[Analyze Data](#)
[Correct Data](#)
[Assemble Evidence](#)

Legend
Unstacked data
Stacked data
Blessed data
Add/View comments

20) The Next screen after running the Lifetime study is →

Here do not make any changes and click on Analyze and get to the next screen

Calculate the lifetime of muons that stop in the detector

This analysis determines the time difference between consecutive photomultiplier tube [signals](#). Two consecutive signals might be one cosmic ray muon followed by another. Two signals may also come from a muon (the first signal) which then decays into an electron, a neutrino and an anti-neutrino. The electron will create a second signal. The routine displays a histogram of the signal separations that "pass" criteria you set in the fields below.

Gain confidence by running a practice analysis.

[Understand the graph](#)

You're analyzing...	Chan1 events	Chan2 events	Chan3 events	Chan4 events	Raw Data
IUCAA Pune University Campus Aug 2, 2012 14:43:06 UTC	64774	50023	58034	66084	View Statistics Geometry
Total (1 files 238915 events)	64774	50023	58034	66084	Compare files

Analyze the same files in [flux](#) or [shower](#)

Click **Analyze** to use the default parameters. Control the analysis by expanding the options below.

▼ **Analysis Controls**

Coincidence level:

Gate width (seconds):

Number of Bins:

► **Plot Controls**

► **Fit Controls**

▼ **Execution Mode**

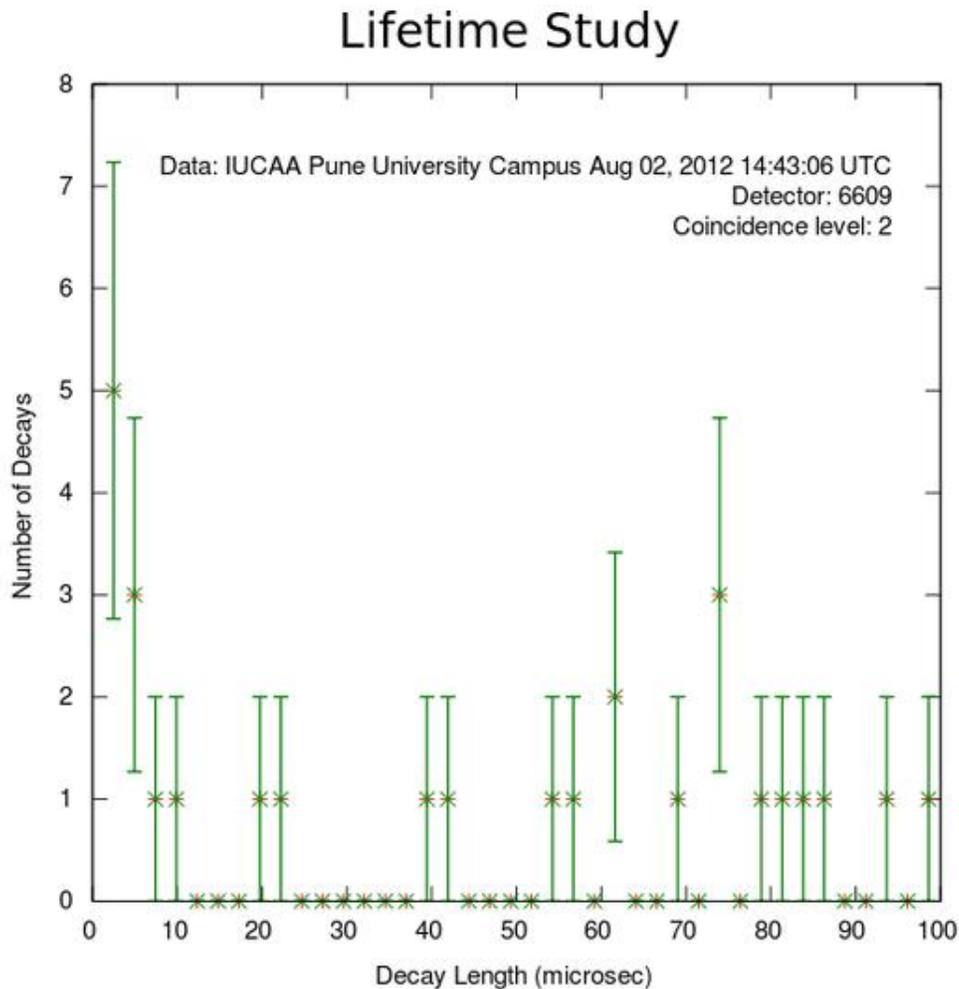
Local (estimated time: 00:01:03)

I2U2 Cluster (estimated time: 00:02:02)

Grid (temporarily disabled)

Automatic (estimated time: 00:01:27)

21) Just click on the analysis directory which will open up a new window → Select lifetimeout. Copy the content of the same in a new text file, from where you may do the required analysis.



Analysis run time: 00:00:15; estimated: 00:01:03

Show [analysis directory](#)

[Change](#) your parameters

OR

To save this plot permanently, enter the new name you want.

Then click **Save Plot**.

.png

Click here and a new window will pop up.