COMPILE ALL RUNS :

RUN	H	CH	Elastics	β-Mon	live time	Energy (kev/u)
6204	(NO HBOOK)					
6207	65	27	2023	2.9×10^7	29.3%	857.3
6210	63 60	31	1545	6.96×10^6	91.4%	857
6211	117 112	52	3176	1.41×10^7	95.4%	857
6212	189 159	78	7968	2.31×10^7	94.5%	871
6213	78 71	29.	7360	2.22×10^7	92%	879
6214	41	15	4588	1.29×10^5	99%	850
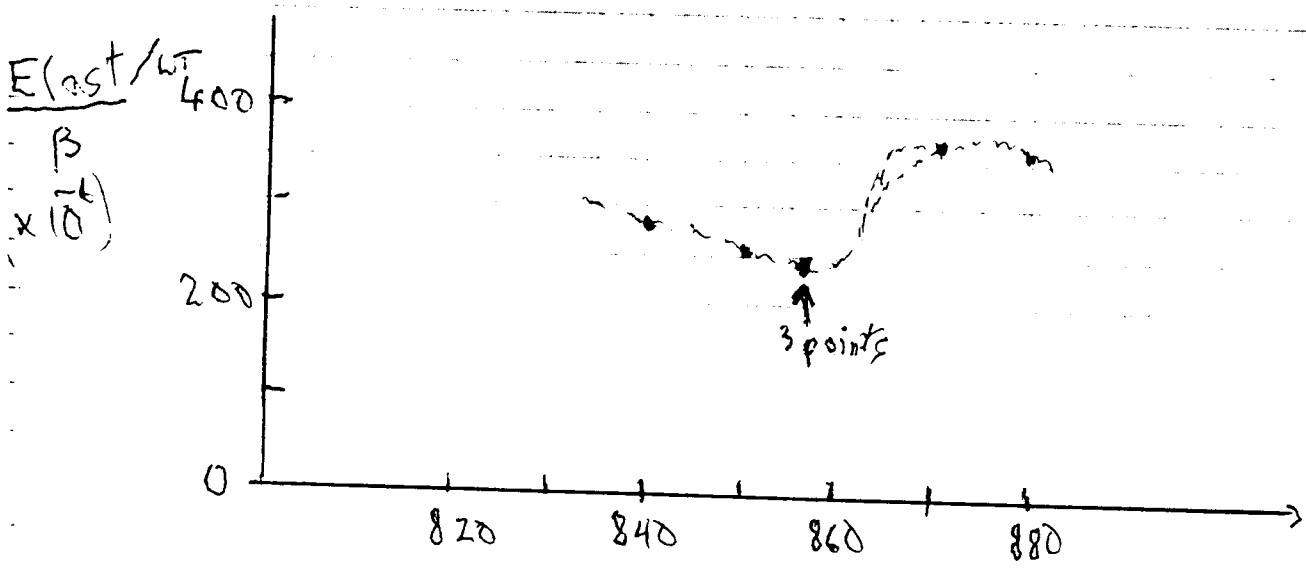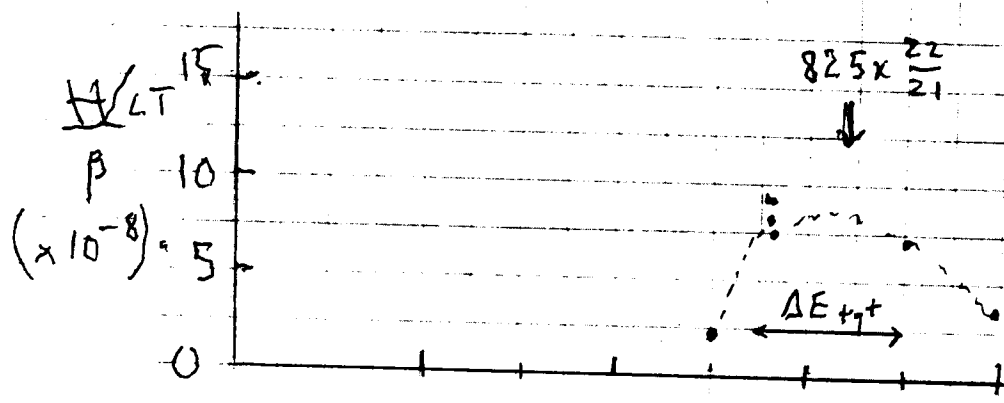
$\dfrac{H/LT}{\beta}$ $(\times 10^{-8})$

$825 \times \dfrac{22}{21}$

ΔE_{tgt}

$\dfrac{E(ast/LT)}{\beta}$ $(\times 10^{-6})$

3 points

E_{beam} (keV/u)

Quicky Tutorial on Using Dragon-Midas Acquisition System

LOGIN -

Normally the system is left logged-in, which shows one of four KDE screens. Most control functions are done from screen 2 which may be selected by clicking on the one of the "Paw++" buttons on the bottom toolbar. Screen 2 shows three "paw" windows and one "odb" window.

Prior to LOGIN the screen shows the Midas logo, a red/blue/green tetrahedron shape. To start the login, enter Username:dragon and Password: dragonpass. When the bottom toolbar appears, click once on its Midas logo button. This brings up several windows, which takes about 20 s, so be patient. When the "dragon_menu" window appears, go to screen 2 and type "paw++&", which brings up 3 "paw" windows. Type "odb" to start ODBEdit. Make the "odb" window sticky and select screen 1. Type "dio dragon" in the upper righthand(URH) window and note any initialization error messages. Select screen 3 and type "analyzer -l" in the analyzer window. Return to screen 2 and check that the odb "scl" command lists the following required clients: Logger, Mstatus, dragon, Analyzer, ODBEdit. If not, perform above steps (again?) as needed, or kill all windows and hit the Midas logo button on the bottom toolbar again. Check the pulser acquisition by typing "start" in the odb window. Note any error messages following start, especially those listed in Error Messages section below.

COMMANDS -

To get access to handy paw features, select "Style Panel" from a pull-down at the bottom of the URH paw "Graphics" window. The new window can be minimized to a "Histog..." icon on KDE's bottom toolbar. The KDE toolbar now shows 13 icons, which may be selected to bring forward various windows. The features of these 13 windows are listed below:

    online - Executes linux commands, like "hprint file w" to print.
    dio dragon - Runs the frontend code which takes Camac data.
    mcnaf - Type "mcnaf" here to access Camac via CNAF commands.
    mstatus - Show Midas start/stop/logging status, updated every 5 s.
    odb - ODBEdit executes start/stop/set/hi commands, etc.
    Paw++(3 windows) - Displays, fits, prints histograms.
    Histog..- Adapts paw scales, zones, labels, etc.
    analyzer - Receives frontend data and forms paw ONLN histograms.
    EPICS and dm - Utility windows used only internally by EPICS.
    dragon... - EPICS controls page, giving access to magnets, etc.

LOGOUT -

If the windows become corrupted and no longer function, they can usually be fixed by logging-out and in again. To do this, select the clock icon just left of the time-of-day display on the bottom toolbar. If the screen freezes with "Preparing session" displayed, type Ctrl+Alt+Backspace to un-hang. The Midas login banner should appear in a few seconds.

ERROR MESSAGES -

When the NIM and Camac electronics is first powered-up, extra

action is required to get started. To get the lower NIM bin -12v power on, remove/restore one of the 612 amplifiers from/to the bin with the power switch in the "ON" position. Elastics and gammas will not acquire with the -12v tripped, which always following power on.

The message "/Equipment/gTrigger/Settings/HV[0] disagrees .." following "start" indicates that the Lecroy HV supply has tripped or not restarted following a power outage. The voltages can be loaded by hand at the front panel, using the values from the above named odb variable, or a program /home/dragon/calib/hvcontrol/hvcontrol can be loaded by typing its name in a shell window while acquisition is still in the "start" mode. Following loading hvcontrol, typing "set ChangeHV y" will copy the voltages from the above odb HV variable to the hardware. This should cure the "disagrees" message.

The message "FERA Compression will be inefficient" following start is a sign of trouble with the gamma array ADC's. Especially if it refers to all or many ADC's (up to 30 are possible), it indicates corruption of the ODB. In this case the ODB must be restored from a "save" file, or the calibration of the gamma array must be repeated. Otherwise, every gamma event may write 30 ADC's and the .mid file will grow too fast.

FREQUENTLY CHANGED ODB VARIABLES -

The following ODB variables should be checked prior to starting each run. They effect the event-by-event data written to the .mid file.
"/Analyzer/Data dir" points to the disk directory to receive spectra and events. A typical value is "/home/dragon/online/data0".
/Logger/Channels/0/Settings/Active has a value "y" or "n" to enable or disable the logger. With the logger disabled, spectra only are acquired, which saves disk space, but precludes event replay. Logger status shows in the "mstatus" window, or on the "Midas status" Netscape page.
/Equipment/gTrigger/Settings/Prescale_factor is typically 50 to record about 2% of the gamma singles. To find the gamma singles rate, read the ALLCHAN value from histogram #1000(g0 Energy) using paw, or the "Gammas acquired" scaler from the ODB. Each logged event consumes about 100 bytes of disk space.
/Equipment/gTrigger/Settings/CFD_Thresholds should be about ~~20~~ 10-14 [handwritten]
for 2 MeV gamma threshold, lower for lower thresholds. A rule of thumb is to set this threshold about 1/2 the desired gamma ray's energy.
/Equipment/gTrigger/Settings/Poffset sets a hardware limit to the individual ADC values, for data compression. Poffset=25 limits the conversions to about 1/2 the 511 value, typical for low gamma background situations.

<div align="right">

Joel Rogers
TRIUMF
16 April, 2002

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midmes01:/home/dragon/online/login.doc

(604) 222-2673 Emergency line to ISAC C.R.