

TRACKN PROGRAM

Part of the GASP Data Analysis Program Package

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1. INTRODUCTION

The **TRACKN** program is part of the Data Analysis Program Package developed at Padova/Legnaro designed for graphical analysis of 2D coincidence matrices produced with GSORT program and/or CMAT program. It can execute the following operations:

1. displaying 1D spectra
2. extracting gated 1D spectra from 2D matrices with normal/common background subtraction;
3. simple operation with spectra (area, centroid and FWHM of peaks);
4. automatic peaksearch;
5. automatic calibration with standard gamma-ray sources;
6. defining smooth background spectrum and cut;
7. screen dump to a PS file.

The program is running in graphic mode on Tek4010 terminals. A brief list of the commands can be get using the **? or H** command.

2. DETAILED DESCRIPTION OF THE COMMANDS

- SPACE_BAR

Set expand markers and display marker position in channels and energy if the calibration was defined before.

- E

Expand spectrum between the last two 'space_bar' markers.

- V

It shows the position (in channels and energy) and spectrum content at the cursor position.

- SETTING MARKERS

B background marker (maximum four=two background region);
I integration marker (maximum two=one integration region);
R mark the ROI for fit (maximum two=one ROI);
G initial estimate of the peak position;
W gate marker;
S smooth background marker.

- DELETING MARKERS

ZB cancel background markers;
ZI cancel integration marker;
ZR cancel ROI;
ZG cancel peak markers;
ZW cancel gate markers;
ZS cancel smooth background marker.

- CB, CI, CJ, MI, MJ, AJ

CB calculate/show background;
CI integration between the I markers; area, centroid, FWHM listed
CJ background+integration;
MI show I markers;
MJ show I and B markers;
AJ automatic background+integration at cursor position.

- CG, CV, MG, MV, AG

- CG** gaussian fit of the peaks marked with G inside the ROI; area, centroid, FWHM are listed;
- CV** background+gaussian fit;
- MG** show G markers;
- MV** show G, R and B markers;
- AG** automatic background+gaussian fit at cursor position.
- CP, DP, MP, ZP, +, -

CP automatic peaksearch and show;

DP define peaks from file;

MP show peaks in the buffer;

ZP cancel peak positions from buffer;

+ insert peak position at cursor location;

- cancel peak position at cursor location.
 - Dn, Cn, Mn, Zn, n

Dn define command string (e.g., NFF=new spectrum+full display);

Cn cicle on the n-th command string;

Mn show the n-th command string;

Zn cancel the n-th command string;

n execute the n-th command string (n=1,...,9).
 - DS, MS, ZS

DS read smooth background points from file;

MS show smooth background points;

ZS cancel smooth background points.
 - DW, MW, ZW, CW, Q

DW define cut limits from terminal or file;

MW show cut limits;

ZW delete cut limits;

CW execute cut;

Q return to the total matrix projection.

CW works in two ways:

 - 1) common background subtraction: all markers define peaks
 - 2) normal background subtraction: first two markers define the peak
all the others define the background
 - DT, CT, AT

DT ;

CT ;

AT .

- DD

Define display characteristics. Some of the possibilities are:

Y-display function: normal(default), logarithmic or square-root;

X-limits (in channels);

Y-limits (in channels);

terminal window dimensions: x0, x1, y0, y1;

text characteristics;

ticks height;

X-axis labels: calibrated(default) or in channels;

X-axis title.

- DK, AK

Define the energy and FWHM calibrations.

DK allows to introduce the coefficients of the calibration polynomials of up to the fifth degree.

AK automatic energy calibration using a list of gamma-rays from a disk file, introduced from terminal or with standard gamma-ray sources.

- DL

Define the LUN for the output of the calculations (fit, integration, ...). If LUN=6 then the results are written on the top of the figure.

- DQ

Define compressed matrix

- FF, FX, FY, FO, FU

FF zoom off on both x and y axes;

FX zoom off on the x axis;

FY zoom off on the y axis;

FO expand below the marker position on y axis ;

FU expand above the marker position on y axis .

- L

Turn off/on logarithmic scale

- N

Define new spectrum

- $O=$

Screen dump of the Tektronix graphical window in a PS file or to the print spooler

- P

Go to a specified energy

- MZ

- $<, >$

Shift spectrum to left/right by 3/4 of the x displayed range

- \equiv

Redisplay

- $CTRL_C, CTRL_Y, CTRL_Z$

Exit (on UNIX use only CTRL_Y)