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 analisys 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 backgound subtraction: all markers define peaks
2) normal backgound 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 th 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 logaritmic 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

- *=*

  Redisplay

- *CTRL_C, CTRL_Y, CTRL_Z*

  Exit (on UNIX use only CTRL_Y)