

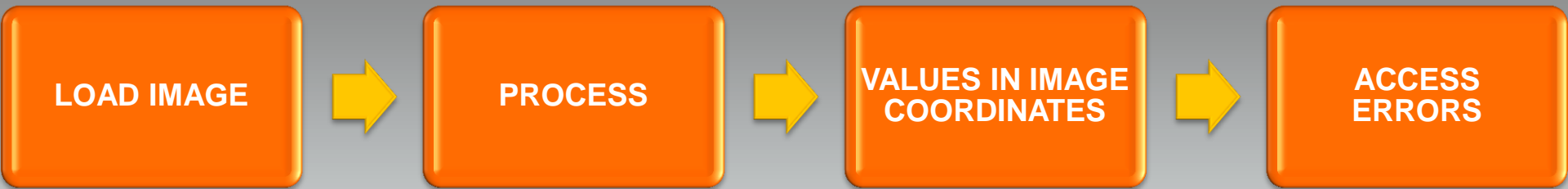
PROGRAM INPGRAPH ON GRAPHIC DATA PROCESSING FOR THE EXFOR DATA LIBRARY

April 21–23, 2015, IAEA, Vienna, Austria

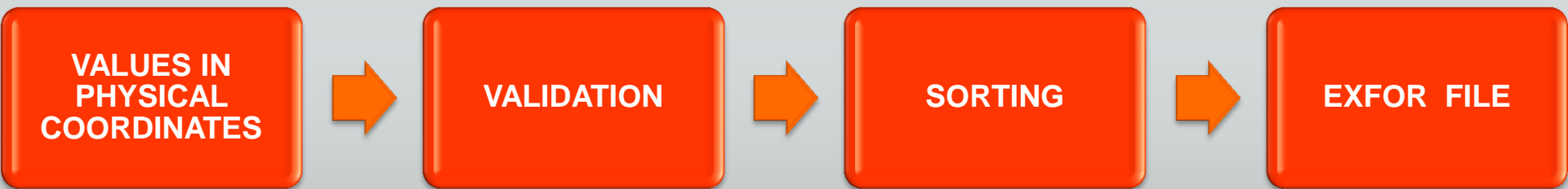
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Russia*

1-st Stage:



2-nd Stage:



InpGraph 3.1

Navigation Buttons

Input Graph 3.1
Files Processing Image Options Help

New Open Save EXFOR File Exit Zoom

Entry + Variables Axes Curves

X Axis Y Axis

X Axis

Heading: EN
Units: KEV
Scale: Linear

Active X Axes
Input Delete

X Axis 2

Name+Color
X Axis 2 Lime

Setting of X Axis

| | Start | End |
|----------|-------|------|
| Input X: | 0145 | 0876 |
| Y: | 0613 | 0612 |

Setting of Ticks

Auto Increm + x 20

| Value | X | Y |
|-------|------|------|
| 20 | 0273 | 0612 |
| 40 | 0415 | 0613 |
| 60 | 0556 | 0611 |
| 80 | 0698 | 0612 |
| 100 | 0840 | 0611 |

Back Next

Wizard Technology

Files Processing Image Options Help

- New from File
- New from Clipboard
- New from Screenshot
- Open Project
- Recent Projects
- Save Project**
- Exit

Open Project File

Панка: PRJ

| Имя | Дата изме... | Тип | Размер |
|------------------|-------------------------|-------------------|------------------|
| Fig6.prj | 13.04.2015 08:53 | Файл "PRJ" | 16 424 КБ |
| G00011.prj | 13.04.2015 08:52 | Файл "PRJ" | 2 562 КБ |
| R77777.prj | 07.04.2015 15:16 | Файл "PRJ" | 2 897 КБ |
| T8888.prj | 07.04.2015 14:51 | Файл "PRJ" | 7 070 КБ |
| Fig5.prj | 07.04.2015 14:51 | Файл "PRJ" | 2 896 КБ |
| Fig4.prj | 07.04.2015 14:50 | Файл "PRJ" | 7 978 КБ |
| Fig3.prj | 07.04.2015 11:55 | Файл "PRJ" | 4 896 КБ |
| G8899.prj | 02.04.2015 14:58 | Файл "PRJ" | 16 426 КБ |
| R7777.prj | 31.03.2015 09:48 | Файл "PRJ" | 16 425 КБ |
| T9999.prj | 31.03.2015 09:44 | Файл "PRJ" | 5 423 КБ |
| F0879.prj | 27.03.2015 17:09 | Файл "PRJ" | 5 КБ |

Имя файла: R7777.prj

Тип файлов: Project Files (*.PRJ)

Открыть Отмена

MINIMUM OF CLICKS!

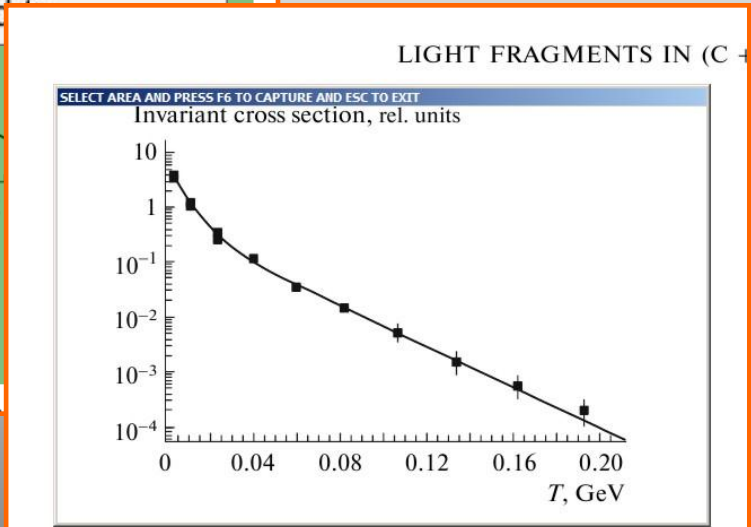
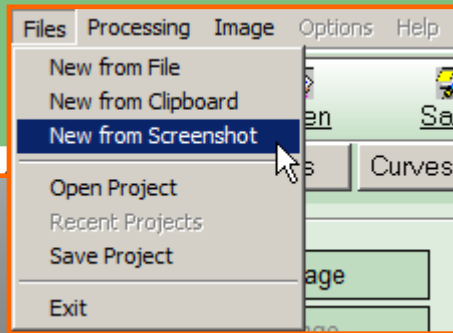
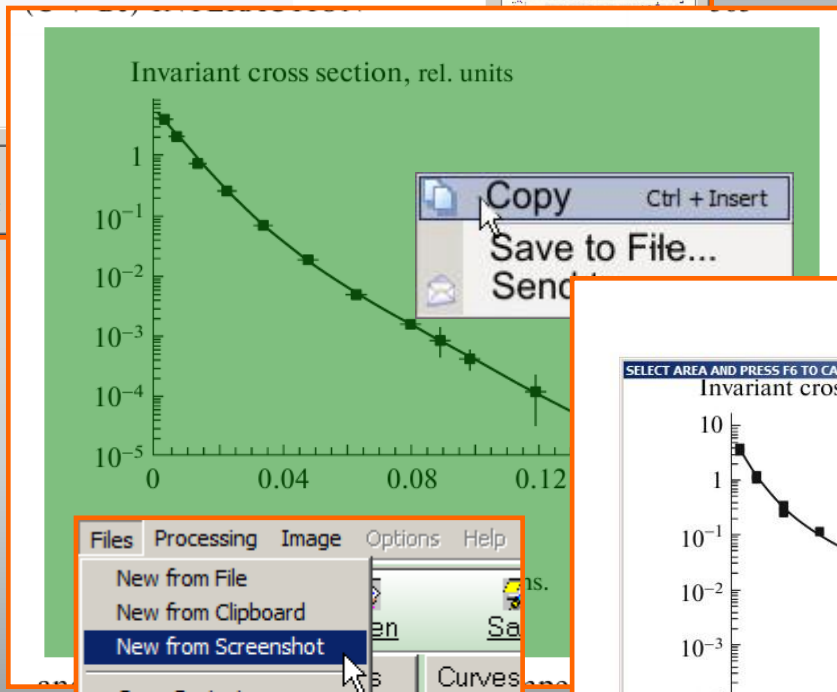
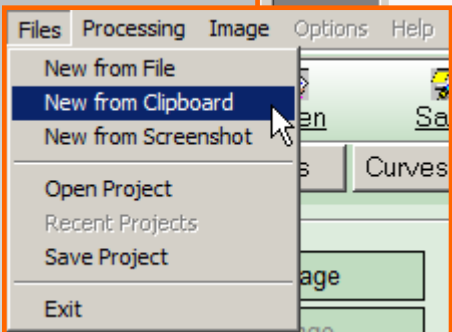
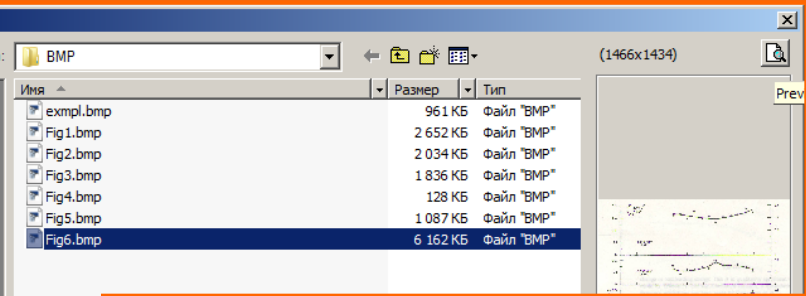
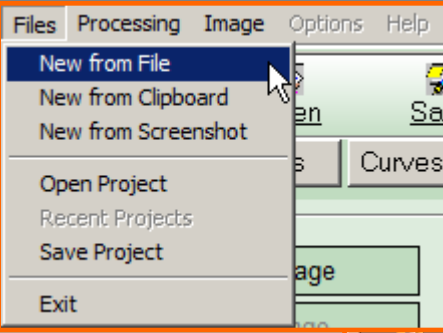


Fig. 1. Dependence of invariant cross section (of the proton yield for ¹²C fragmentation at 300 MeV/nucleon as a function of the kinetic energy in the fragmenting nucleus

Set entry number

Set number of additional variables

Set heading of additional variable

Select units of additional variable

Image Edit Mode

Entry + Variables Axes Curves

Entry Number: F0088

Additional Independent Variables: No One Two

First Additional Variable

Heading: E-LVL

Units: EV, GEV, GEV/A, KEV, MEV, MEV/A

Click to search heading in Dictionary 24

Click to filter headings Click to select heading

E- FILTR SELECT CANCEL

| | |
|--------------|----------------------------------------------|
| E-EXC3 | 3rd excitation energy, defined under EN-SEC. |
| E-LVL | Level energy |
| E-LVL1 | 1st level energy, defined under EN-SEC |
| E-LVL1-MAX | Upper limit of 1st level energy range |
| E-LVL1-MIN | Lower limit of 1st level energy range |
| E-LVL2 | 2nd level energy, defined under EN-SEC |
| E-LVL2-MAX | Upper limit of 2nd level energy range |

Automatic Mode

Click to add an axis

Click to set a directional line

Set for automatic mode

Click to input first and last points

Click to calculate axis ticks

Set number of intermediate ticks

Handle Mode

Set axis heading

Set axis units

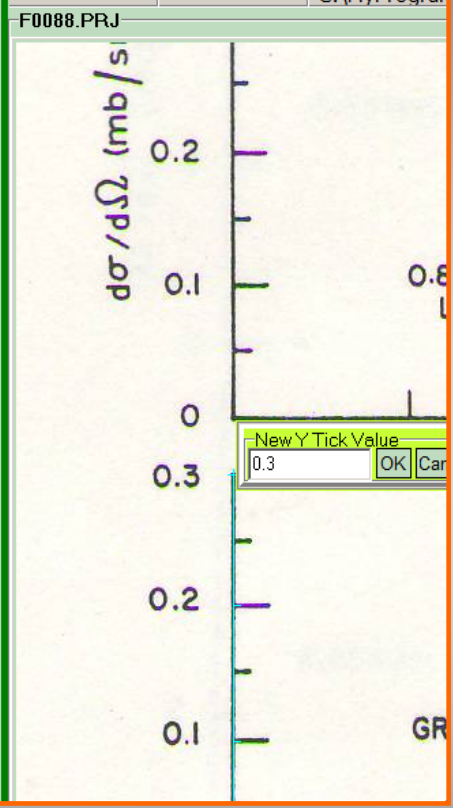
Set axis scale

Click to check linearity and accuracy

Click to sort axis ticks

Set for automatic increment of values

Click to input axis ticks



Entry + Variables | Axes | Curves

X Axis | Y-Axis

X Axis

Heading: EN

Units: KEV

Scale: Linear

Active X Axes

Input Delete

| | |
|----------|--|
| X Axis 1 | |
| X Axis 2 | |

Name+Color

X Axis 2

Setting of X-axis

Start

Input X: 0167

Y: 0987

Setting of Ticks

Automatic

Value: 2

Input X: 0296

Y: 0985

Tick Number: 6

(Exclude first and last ticks)

Click to delete a selected axis

Select new color of axis

Enter new name of selected axis

Click to delete first and last ticks

Entry + Variables | Axes | Curves

X Axis | Y Axis

X Axis

Heading: EN

Units: KEV

Scale: Linear

Active X Axes

Input Delete

| | |
|----------|--|
| X Axis 1 | |
| X Axis 2 | |

Name+Color

X Axis 2

Setting of X Axis

Start End

Input X: 0167 1321

Y: 0987 0981

Setting of Ticks

Auto Increment

| Value | X | Y |
|-------|------|------|
| 2 | 0296 | 0985 |
| 2.107 | 0424 | 0985 |
| 2.214 | 0552 | 0984 |
| 2.321 | 0680 | 0984 |
| 2.429 | 0808 | 0983 |
| 2.536 | 0936 | 0983 |
| 2.643 | 1064 | 0982 |
| 2.75 | 1193 | 0982 |

Click to delete direction line

Click to delete all the ticks

Click to delete the selected tick

Click to add a curve

Input additional variable values

Select axes from lists

Click to start input of points

Click to add Y error bar

Click to add X error bar

Entry + Variables
Axes
Curves

Curve List

| | |
|-------|--|
| FIG.1 | |
| FIG.2 | |

Name+Color

FIG.1 Lime

Additional Independent Variables

| | |
|-----------|------|
| E, MEV | 0.75 |
| ANG, ADEG | 150 |

Axes

EN,MEV: X Axis 1

DATA,ARB-UNITS: Y Axis 1

Point

Err X Err Y ErrMass Y ErrMass XY

Err X+ Err X- Err Y+ Err Y-

Min Max

Data Table

| Point | ErrorX | ErrorY |
|-----------|--------|-----------|
| 0433 0856 | | 0432 0843 |
| 0449 0859 | | 0450 0848 |
| 0468 0857 | | 0467 0844 |
| 0483 0847 | | 0483 0834 |
| 0501 0840 | | 0501 0827 |
| 0519 0831 | | 0518 0817 |
| 0536 0823 | | 0537 0809 |
| 0553 0812 | | 0553 0801 |
| 0569 0810 | | 0569 0797 |
| 0587 0813 | | 0587 0801 |
| 0602 0819 | | 0605 0805 |
| 0621 0806 | | 0622 0792 |
| 0640 0797 | | 0640 0785 |

F7777.PRJ

Min Max Mode

Point

Err X Err Y ErrMass Y ErrMass XY

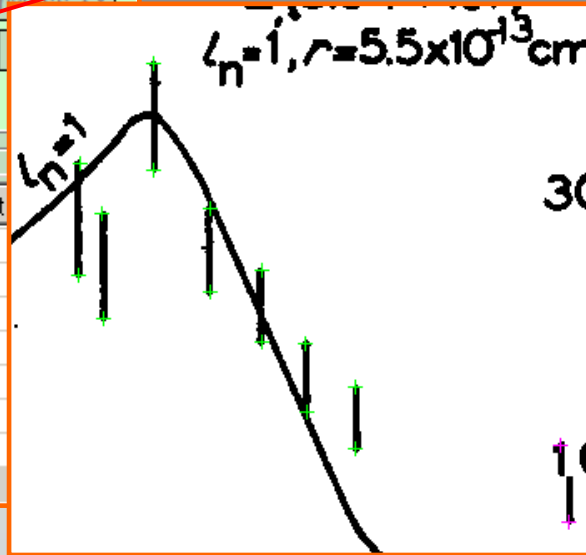
Err X+ Err X- Err Y+

Min Max

Data Table

| First Point | Second Point |
|-------------|--------------|
| 0604 0653 | 0605 0586 |
| 0619 0679 | 0618 0616 |
| 0649 0590 | 0649 0526 |
| 0683 0663 | 0683 0613 |
| 0714 0693 | 0714 0650 |
| 0741 0735 | 0740 0694 |
| 0770 0757 | 0770 0720 |
| 0898 0801 | 0893 0755 |

Click to start input
Min/Max points



ErrMass Y Mode

Point

Err X Err Y ErrMass Y ErrMass XY

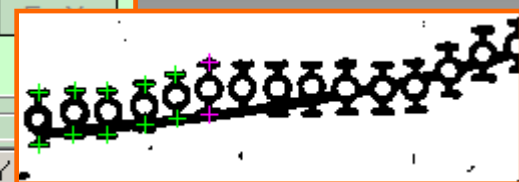
Err X+ Err X- Err Y+

Min Max

Data Table

| Point | Error X | Error Y |
|-----------|---------|-----------|
| 0209 0295 | | 0209 0269 |
| 0226 0290 | | 0227 0268 |
| 0243 0290 | | 0243 0268 |
| 0262 0285 | | 0262 0265 |
| 0278 0282 | | 0277 0260 |
| 0294 0280 | | 0294 0254 |

Click to start input
points with Y error bars



ErrMass XY Mode

Point

Err X Err Y ErrMass Y ErrMass XY

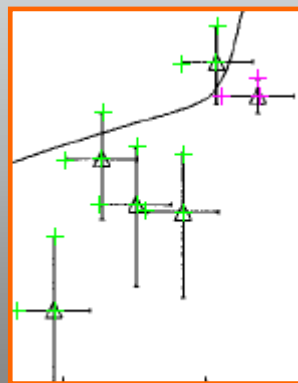
Err X+ Err X- Err Y+ Err Y-

Min Max

Data Table

| Point | Error X | Error Y |
|-----------|-----------|-----------|
| 0122 0433 | 0103 0433 | 0122 0396 |
| 0145 0357 | 0127 0358 | 0146 0334 |
| 0163 0380 | 0144 0380 | 0163 0351 |
| 0186 0384 | 0167 0383 | 0186 0355 |
| 0202 0309 | 0185 0310 | 0203 0291 |
| 0224 0326 | 0205 0326 | 0223 0317 |

Click to start input
Min/Max points



Click to delete
a selected curve

Enter new name
of selected curve

Select new color
of curve

Entry + Variables Axes Curves

- Curve List

| | |
|-------|--------|
| Input | Delete |
| FIG.1 | |
| FIG.2 | |

Name+Color

FIG.1 Lime

Additional Independent

E, MEV

ANG, ADEG

Axes

EN, MEV:

DATA, ARB-UNITS:

Silver

Red

Lime

Yellow

Blue

Fuchsia

Aqua

White

Point

Err X Err Y ErrMass Y ErrMass XY

Err X+ Err X- Err Y+ Err Y-

Min Max

Data Table

| Point | Error X | Error Y |
|-----------|---------|-----------|
| 0433 0856 | | 0433 0842 |
| 0449 0859 | | 0449 0847 |
| 0467 0856 | | 0468 0843 |
| 0483 0848 | | 0484 0835 |
| 0502 0840 | | 0502 0826 |
| 0518 0830 | | 0518 0817 |
| 0536 0823 | | 0537 0809 |
| 0552 0812 | | 0553 0799 |
| | | |
| | | |
| | | |

Delete Delete ErrX Delete ErrY Clear

Click to erase
X error bar

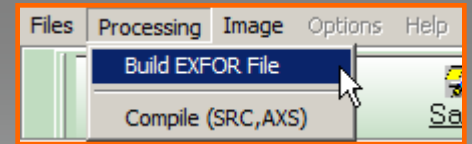
Click to erase selected
point with error bars

Click to erase
Y error bar

Click to erase all
points with error bars



OR



Diagnostic Messages

Warning List

Y Axis 1: Only two ticks - low accuracy!
 CURVE 2: NO X Axis
 CURVE 2: NO Y Axis
 CURVE 2: NO Independent Value 2
 CURVE 2: NO Independent Value 2

Continue Interrupt

Click to save changes
in EXFOR file

Edit EXFOR file
(If it is necessary)

Processing Result

Everything is OK!

Save OK

| Diagnostic Message | | EXFOR File | |
|--------------------|---------------------|----------------------------------------------|------------------|
| file name: | E | ENTRY | F7777 201504 |
| ANG | 1 1.500000 1.700000 | SUBENT | F7777001 |
| | 1.900000 2.100000 | BIB | 6 6 |
| | 2.300000 2.500000 | TITLE | |
| ipr_xlin= | 1 ipr_ylin= | AUTHOR | |
| 0 | | INSTITUTE | |
| 194.0000 | 899.0000 | REFERENCE | |
| 195.0000 | 747.0000 195.0000 | FACILITY | |
| | | HISTORY | (20150415C) |
| 858.0000 | 196.0000 | ENDBIB | |
| 775.0000 | | NOCOMMON | |
| | | ENDSUBENT | |
| | | SUBENT | F7777002 |
| | | BIB | 4 6 |
| | | REACTION | |
| | | ERR-ANALYS (EN-ERR-DIG) | Digitizing error |
| | | (ERR-DIG) | Digitizing error |
| | | (DATA-ERR) | |
| | | STATUS (CURVE) FIG.1 | |
| | | FIG.2 | |
| | | ENDBIB | |
| | | COMMON | 2 3 |
| | | EN-ERR-DIG ERR-DIG | |
| | | MEV ARB-UNITS | |
| | | 0.16500E-020.15802E-02 | |
| | | ENDCOMMON | |
| | | DATA | 5 54 |
| | | E ANG EN DATA DATA-ERR | |
| | | MEV ADEG MEV ARB-UNITS ARB-UNITS | |
| | | 0.75000 150.00 1.8229 0.10163 0.31341E-01 | |
| | | 0.75000 150.00 1.8462 0.94191E-010.26494E-01 | |
| | | 0.75000 150.00 1.8739 0.98757E-010.31341E-01 | |
| | | 0.75000 150.00 1.8959 0.12265 0.31327E-01 | |
| | | 0.75000 150.00 1.9222 0.13928 0.31327E-01 | |

| Quantization Errors | |
|---------------------|------------------|
| Axis Name | Error Value |
| X Axis 1 | 0.0007 MEV |
| Y Axis 1 | 0.0012 ARB-UNITS |
| Y Axis 2 | 0.0023 ARB-UNITS |

$$\delta_x = \sqrt{\frac{\sum_{i=1}^{n_x} (\bar{x}_i - x_i)^2}{n-1}}; \quad \delta_y = \sqrt{\frac{\sum_{i=1}^{n_y} (\bar{y}_i - y_i)^2}{n-1}}$$

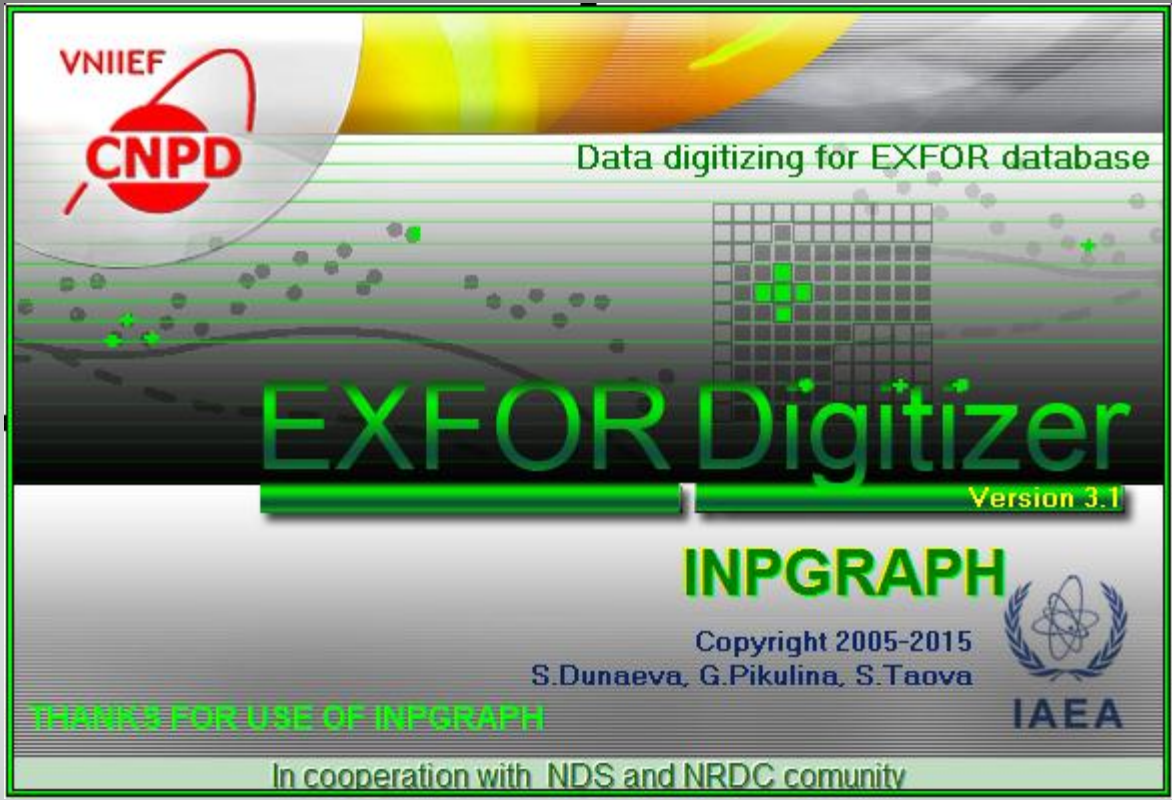
Quantization error (Δ) = pixel value / 2

```
ERR-ANALYS (EN-ERR-DIG) Digitizing error
            (ERR-DIG) Digitizing error
            (DATA-ERR)
STATUS      (CURVE) FIG.1
            FIG.2
ENDBIB
COMMON      2      3
EN-ERR-DIG ERR-DIG
MEV         ARB-UNITS
0.16500E-02 0.15802E-02
ENDCOMMON
```

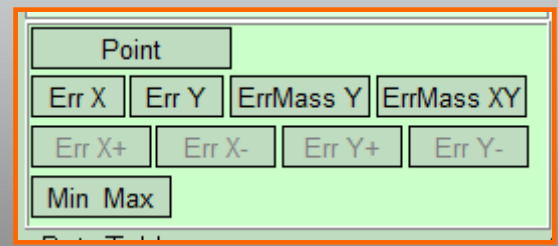
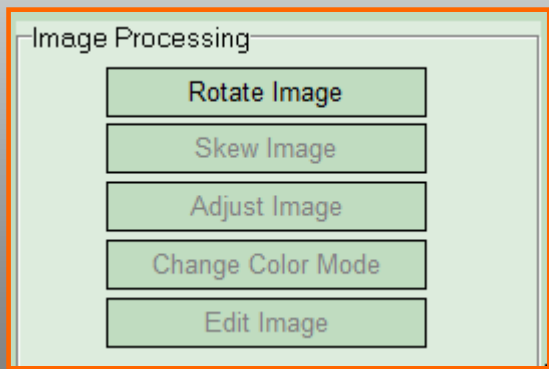
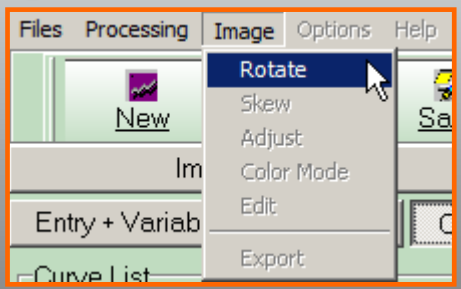
| Quantization Errors | |
|---------------------|------------------|
| Axis Name | Error Value |
| X Axis 1 | 0.0007 MEV |
| Y Axis 1 | 0.0012 ARB-UNITS |
| Y Axis 2 | 0.0023 ARB-UNITS |

Digitizing error = Max (δ, Δ)

Approvement is necessary



Our plans:





THANK YOU!

