北海道大学 大学院理学研究院 附属
原子核反応データベース研究開発センター
Nuclear Reaction Data Centre (JCPRG)
Faculty of Science, Hokkaido University

HOKKAIDO UNIVERSITY

Digitization software GSYS

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Workshop on EXFOR compilation
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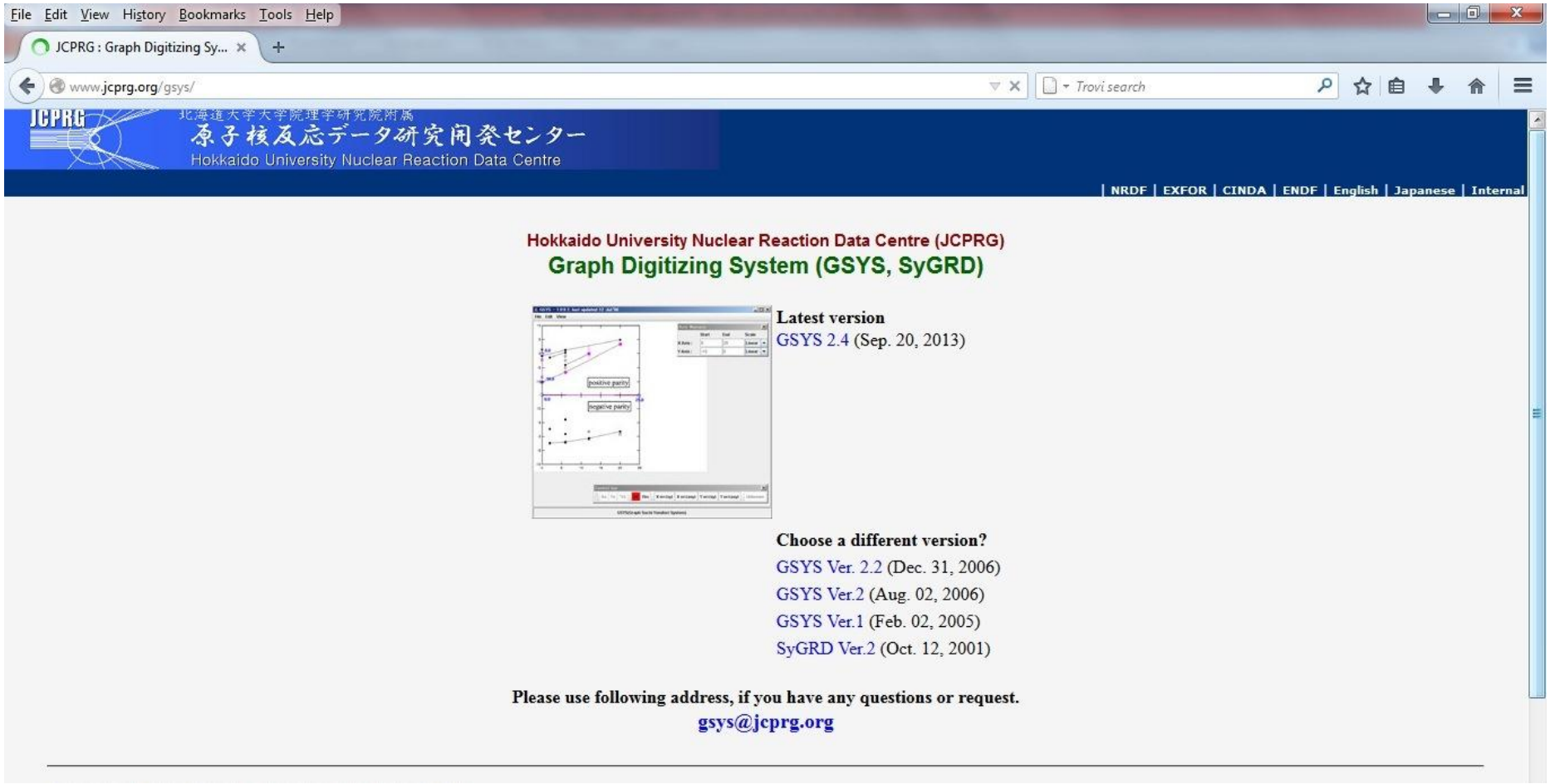
What is GSYS?

The software GSYS is used for reading the numerical data from an image file in JCPRG.

- Cross-platform window application which only requires Java Runtime Environment (JRE).
- Works on Windows, Linux, FreeBSD, Mac OS X, etc.
- Supports PNG, GIF and JPEG image formats.
- Flexible input and output that are compatible with many data formats.
- Feedback function which enables to reuse former data easily.
- Easy set-up of X-axis and Y-axis with automatic axis detection.

History of GSYS



~1984 Digitizer of Hokkaido University

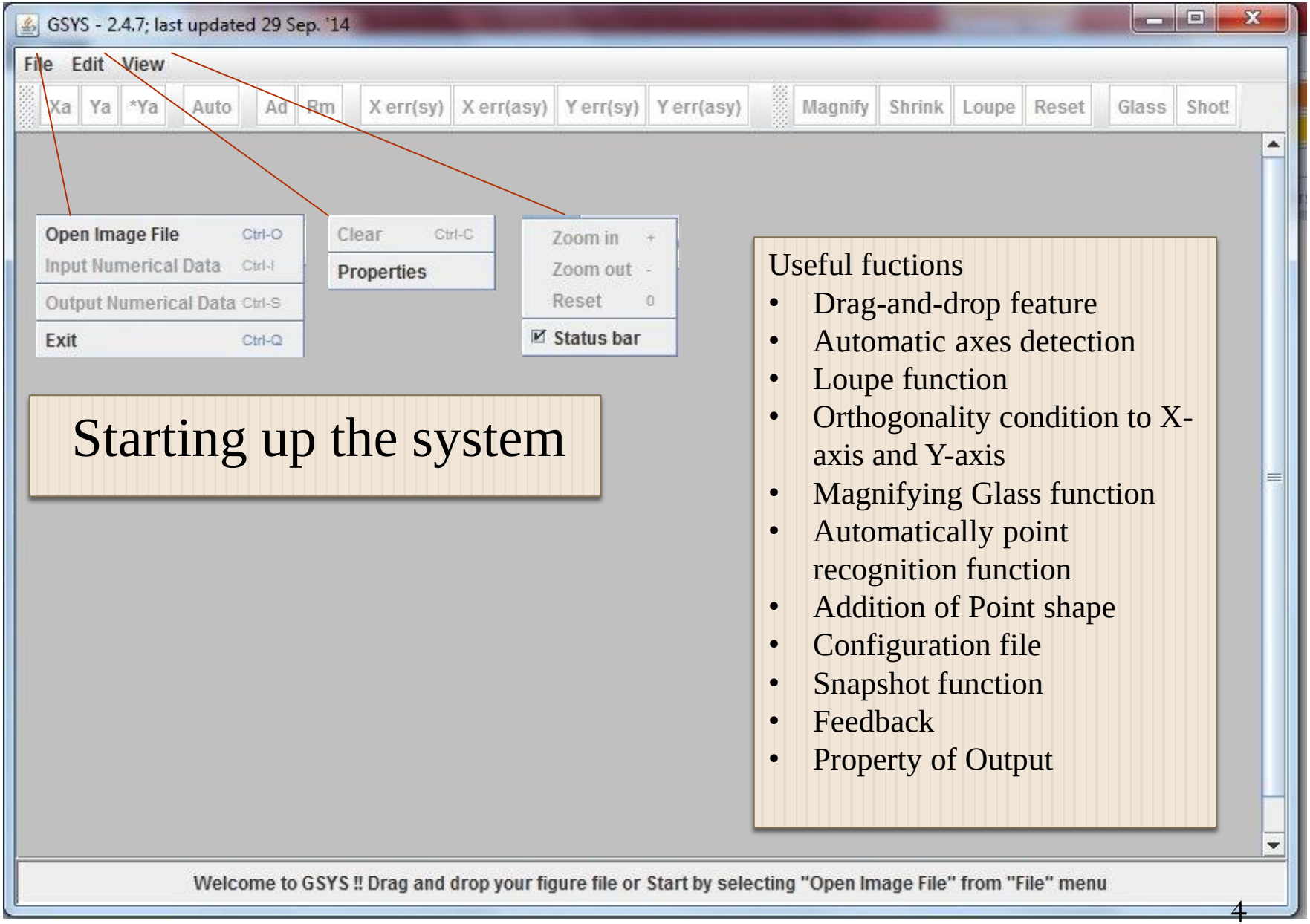
How to use GSYS2.4.

- Installing GSYS2.4.
  - Install Java: GSYS2.4 requires Java
  - Download an executable file "Gsys2.4.*X*.jar" from the website of JCPRG (http://www.jcprg.org/gsys/).
  - Ready to start GSYS2.4.

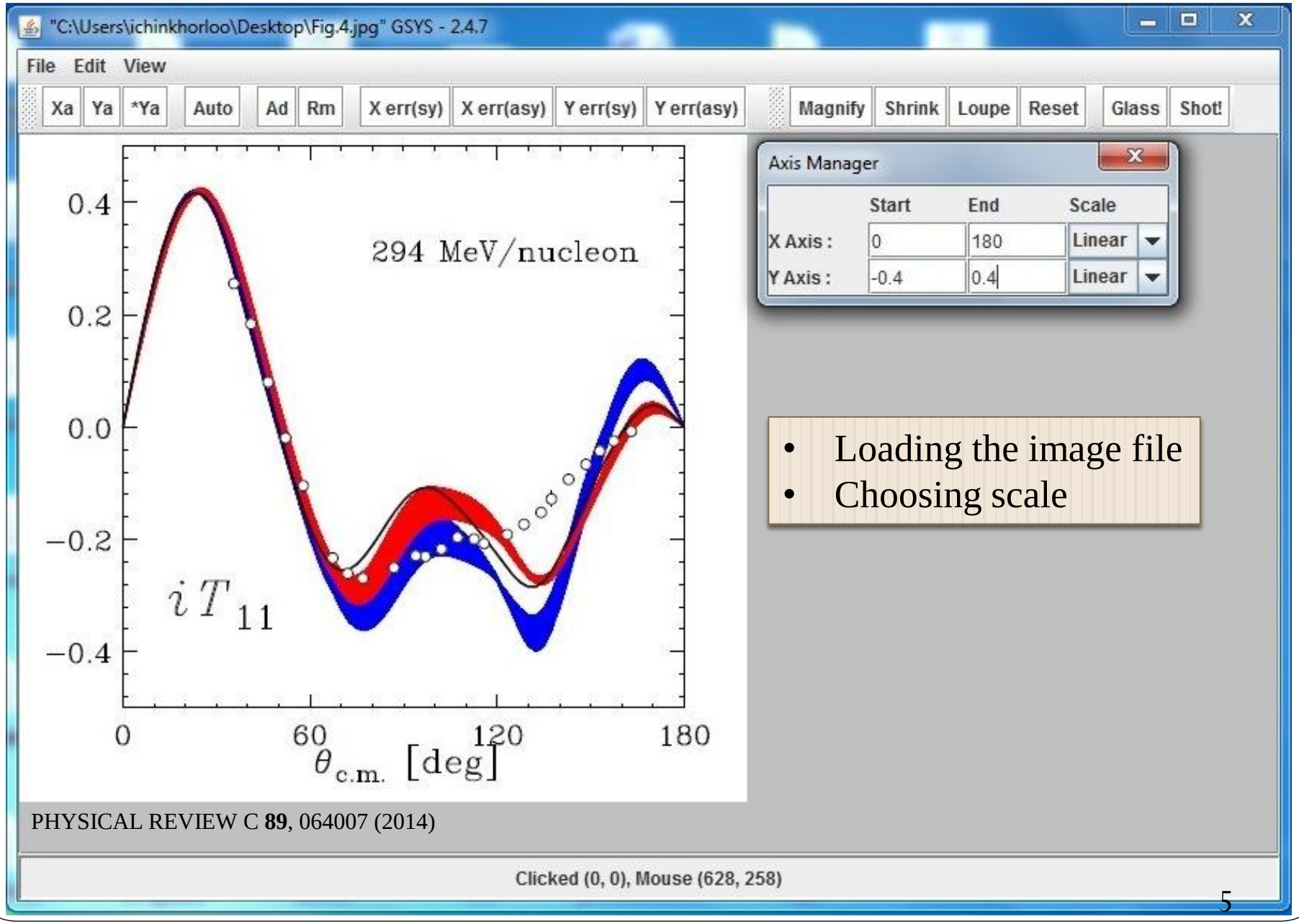
Note

- Please use this system at your own risk.
- It is not allowed to use this system for any kind of business purpose.

How to use GSYS2.4.

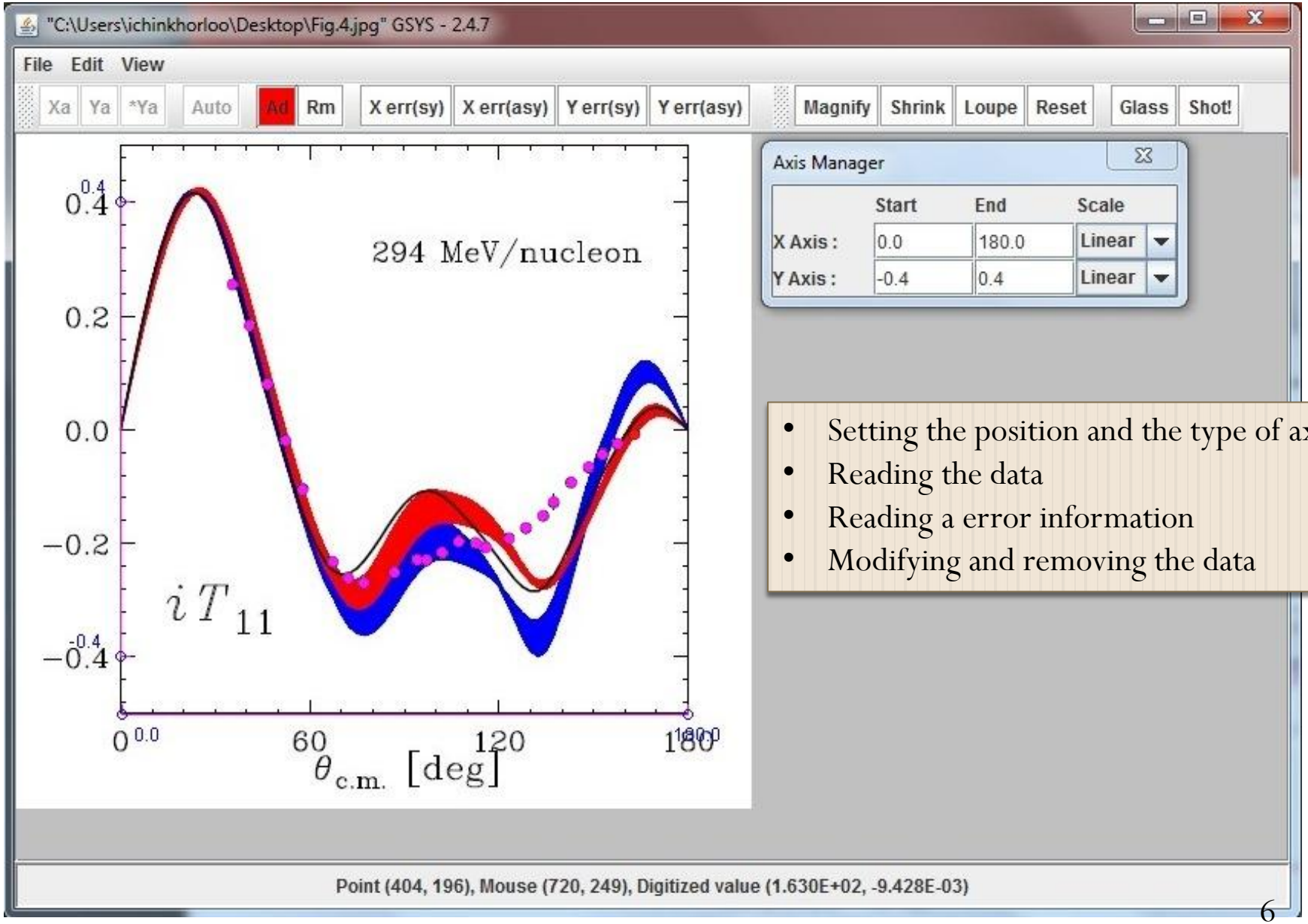


How to use GSYS2.4.



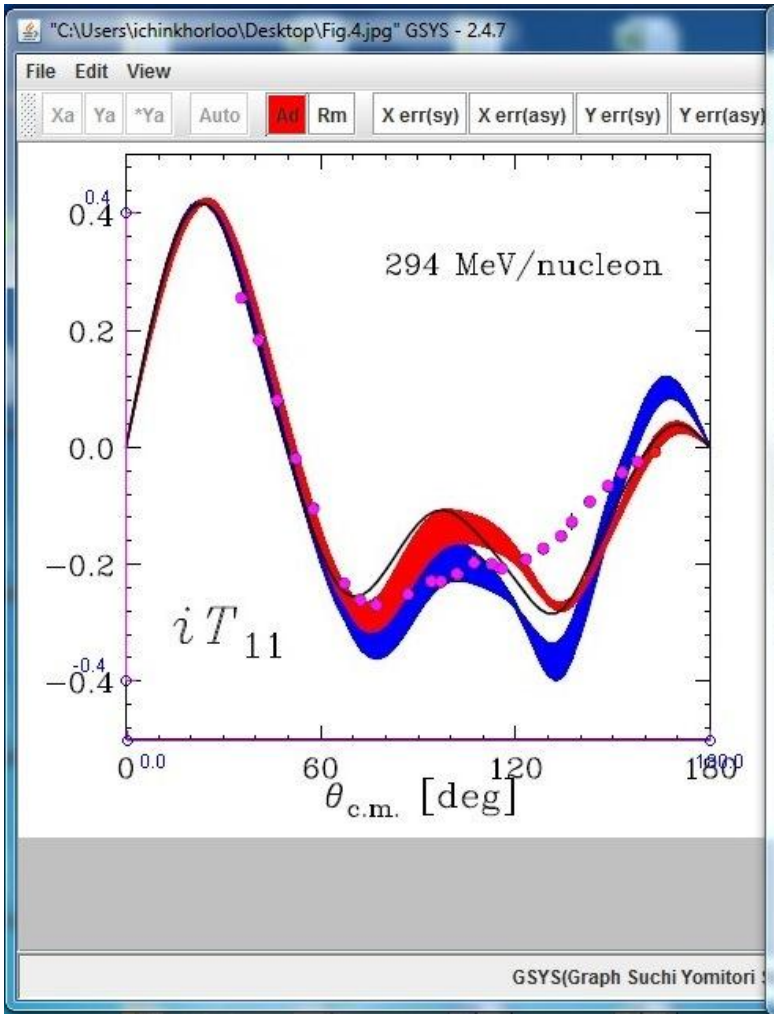
- Loading the image file
- Choosing scale

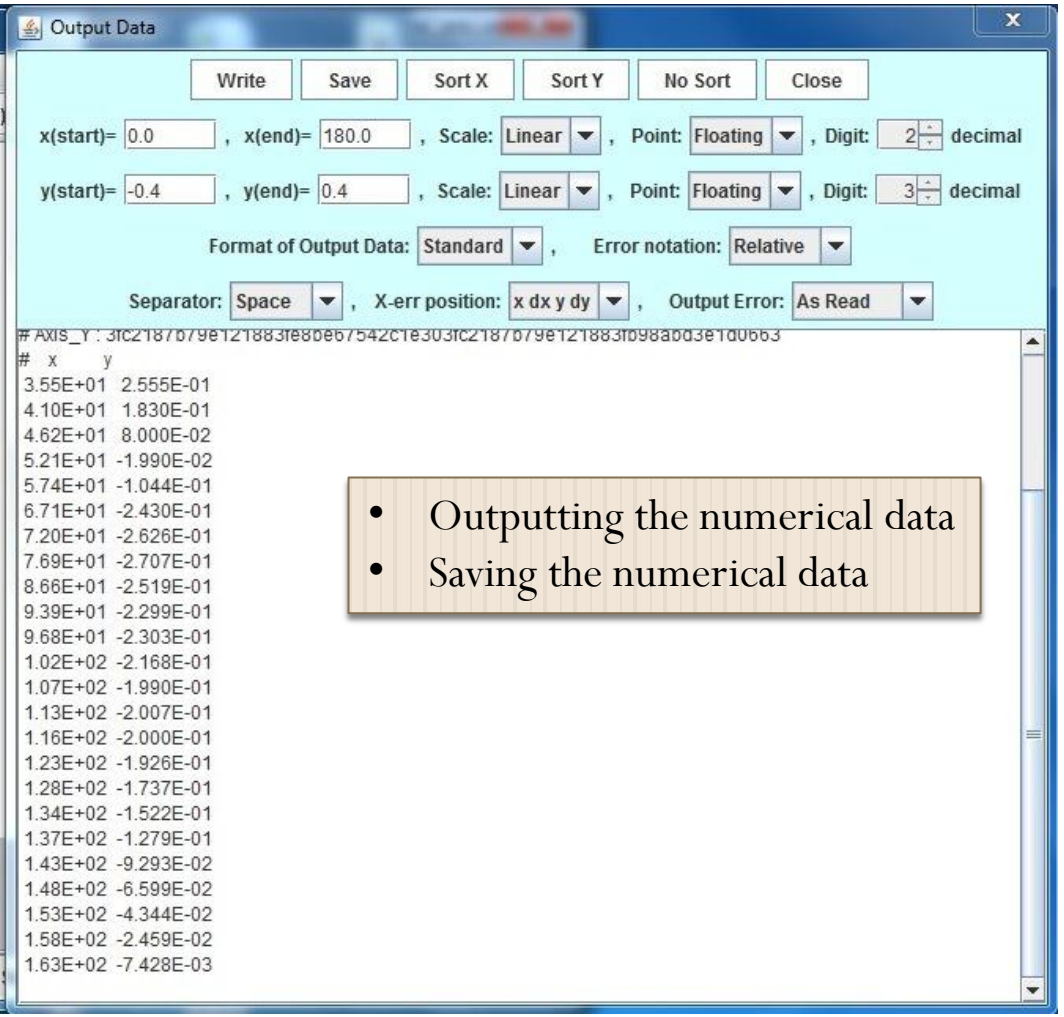
How to use GSYS2.4.



- Setting the position and the type of axis
- Reading the data
- Reading a error information
- Modifying and removing the data

How to use GSYS2.4.





- Outputting the numerical data
- Saving the numerical data

Digitized data

Output Data

Write | Save | Sort X | Sort Y

x(start)= 0.0 , x(end)= 180.0 , Scale: Linear

y(start)= -0.4 , y(end)= 0.4 , Scale: Linear

Format of Output Data: Standard , E

Separator: Space , X-err position: x dx y dy

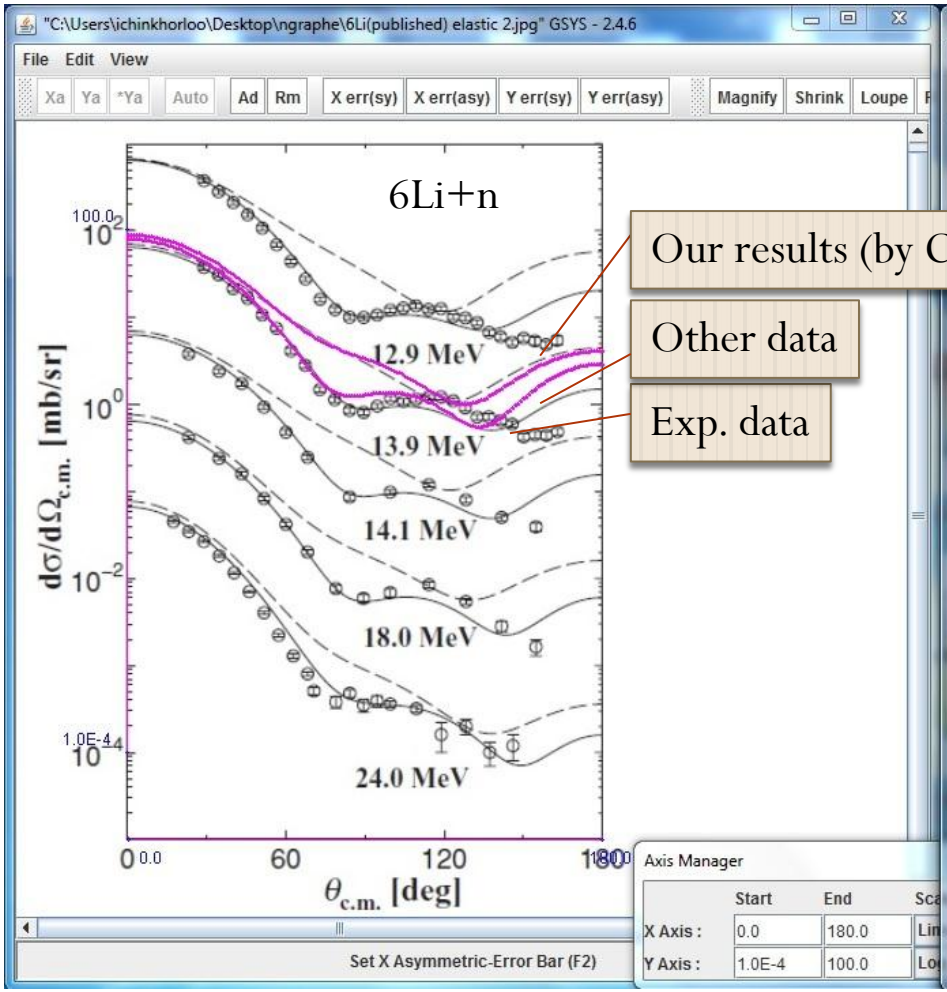
Axis_Y : 3fc2187b79e12183fe8be67542c1e303fc2187b79e12183

# x	y
3.55E+01	2.555E-01
4.10E+01	1.830E-01
4.62E+01	8.000E-02
5.21E+01	-1.990E-02
5.74E+01	-1.044E-01
6.71E+01	-2.430E-01
7.20E+01	-2.626E-01
7.69E+01	-2.707E-01
8.66E+01	-2.519E-01
9.39E+01	-2.299E-01
9.68E+01	-2.303E-01
1.02E+02	-2.168E-01
1.07E+02	-1.990E-01
1.13E+02	-2.007E-01
1.16E+02	-2.000E-01
1.23E+02	-1.926E-01
1.28E+02	-1.737E-01
1.34E+02	-1.522E-01
1.37E+02	-1.279E-01
1.43E+02	-9.293E-02
1.48E+02	-6.599E-02
1.53E+02	-4.344E-02
1.58E+02	-2.459E-02
1.63E+02	-7.428E-03

Original data (Requested from author)

MEV			E2452
294.			E2452
ENDCOMMON	3	0	E2452
ENDSUBENT	43	0	E2452
SUBENT	E2452002	20140919	E2452
BIB	4	4	E2452
REACTION	(1-H-1(D,EL)1-H-1,,POL/DA,,VAP)		E2452
EN-SEC	ANG-CM is polar angle (c.m.) between beam and deuteron		E2452
ERR-ANALYS	(DATA-ERR) No information on source of uncertainties		E2452
STATUS	(TABLE) Plotted in Fig.4 of J,PR/C,89,064007,2014		E2452
ENDBIB	4	0	E2452
NOCOMMON	0	0	E2452
DATA	3	24	E2452
ANG-CM	DATA	DATA-ERR	E2452
ADEG	NO-DIM	NO-DIM	E2452
35.6	0.2557	0.0054	E2452
41.1	0.1838	0.0045	E2452
46.6	0.0802	0.005	E2452
52.2	-0.0194	0.0035	E2452
57.8	-0.1045	0.0053	E2452
67.3	-0.233	0.0052	E2452
72.1	-0.2609	0.0049	E2452
77.	-0.2695	0.0076	E2452
86.9	-0.2505	0.007	E2452
93.9	-0.2291	0.0053	E2452
97.	-0.2303	0.0076	E2452
102.1	-0.217	0.0067	E2452
107.3	-0.1964	0.0066	E2452
112.6	-0.1995	0.0083	E2452
115.8	-0.2073	0.0075	E2452
123.2	-0.1914	0.0074	E2452
128.6	-0.1732	0.0092	E2452
134.1	-0.1519	0.0066	E2452
137.4	-0.1281	0.0135	E2452
142.9	-0.0932	0.0076	E2452
148.5	-0.0665	0.0066	E2452
152.9	-0.0425	0.0074	E2452
157.4	-0.0248	0.0089	E2452
163.	-0.0076	0.0093	E2452
ENDDATA	26	0	E2452
ENDSUBENT	35	0	E2452
SUBENT	E2452003	20140919	E2452

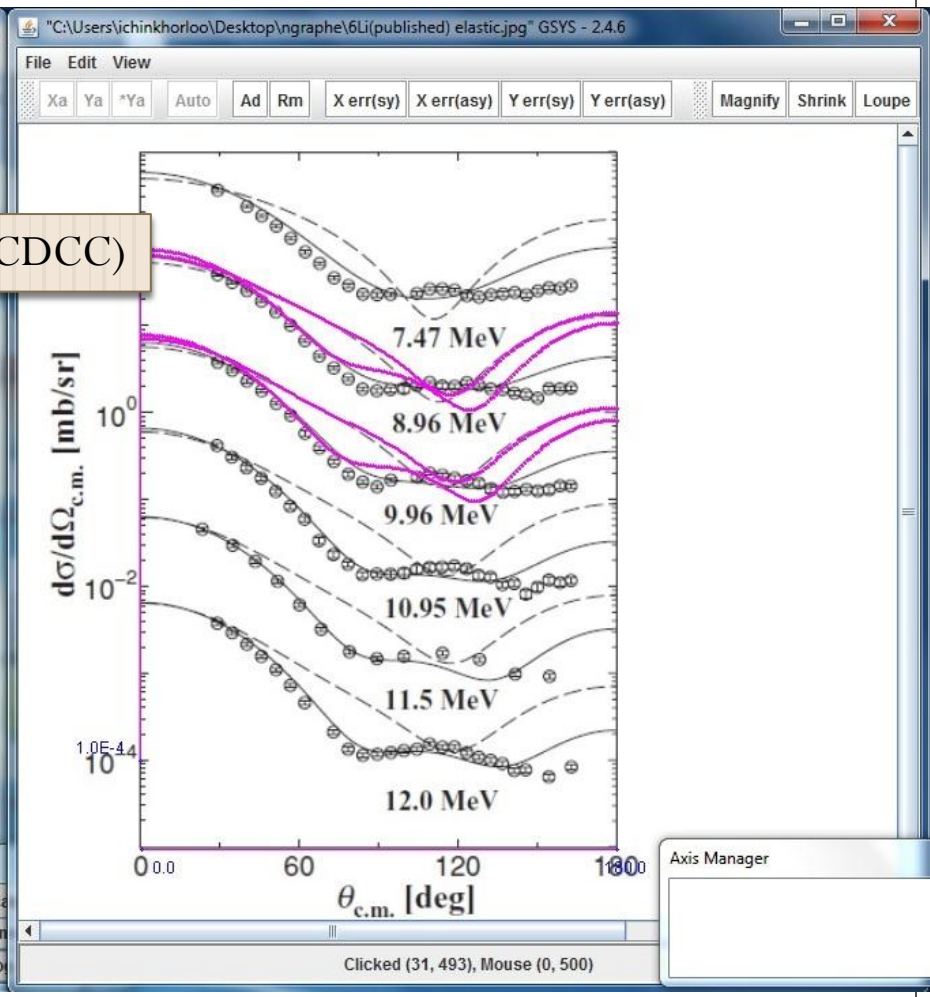
GSYS2.4.

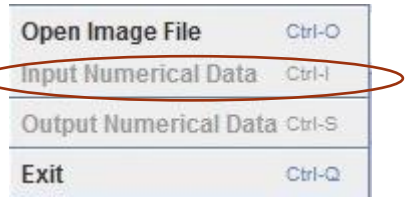


Our results (by CDCC)

Other data

Exp. data



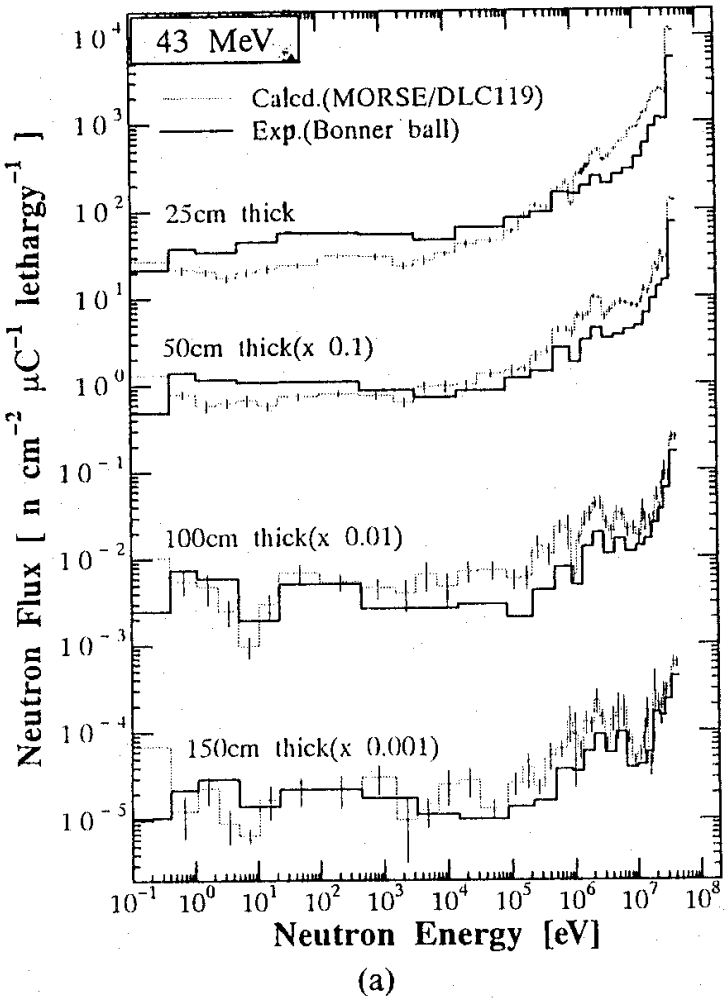


Useful for comparison

Problems for Digitization

Digitization is very useful for old paper compilation

- Small error bar
- unflexible figures
- undistinguishable data points



Thank you very much