

New functions of GSYS and compilation tools

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GSYS

- What is GSYS ?
- Japanese digitizing activity
- GSYS 2.4.x new
- Demonstration

GSYS

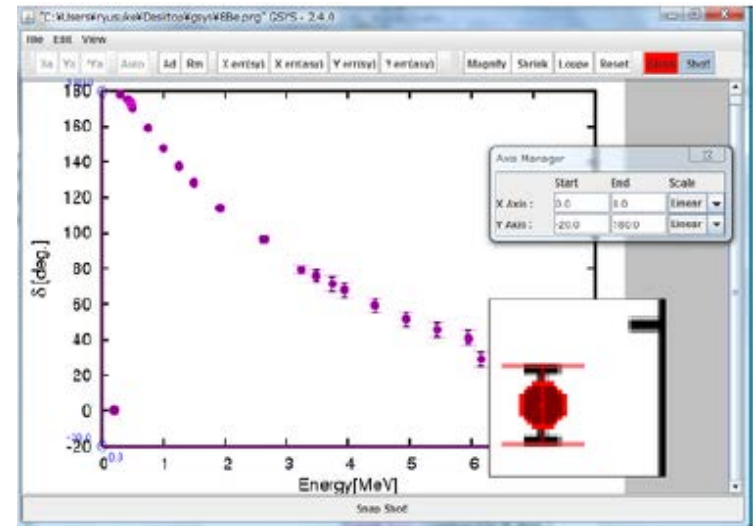
GSYS is a software to digitize data points on the figure in a form of graphical image.

- Cross-platform window application which only requires JRE.

- Free but there are terms of use

– PLEASE USE THIS SYSTEM AT YOUR OWN RISK.

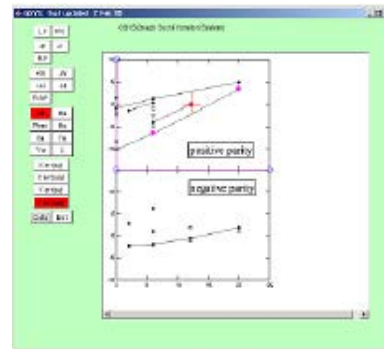
– IT IS NOT ALLOWED TO USE THIS SYSTEM FOR ANY KIND OF BUSINESS PURPOSE.



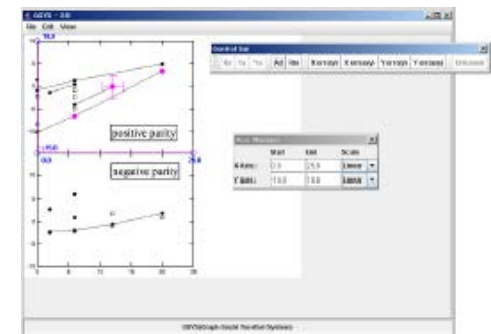
Japanese digitizing activity

- ~1984 Digitizer of Hokkaido University
- Information initiative Center was used
- 1985-:GRADIS(Tanaka, Kazama)
- 1988-:GRADIS2(Kazama)
- 1990-:Update digitizing system(Okabe)
- 1998-:sysGRD(Dr.H.Ohmi)
- 2004:GSYS(Dr.K.Arai)
- 2005-:GSYS2(Dr.R.Suzuki)
- 2006-:GSYS2.2(S. Ito, Dr.R.Suzuki)
- 2010-:GSYS2.4(Dr. R. Suzuki, S. Ito)

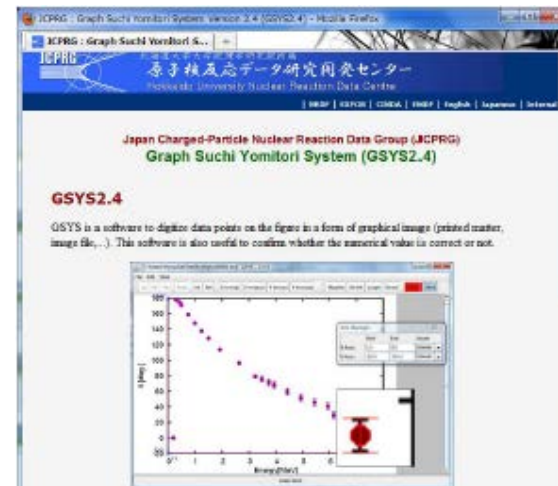
<http://www.jcprg.org/gsys/2.4/>



GSYS



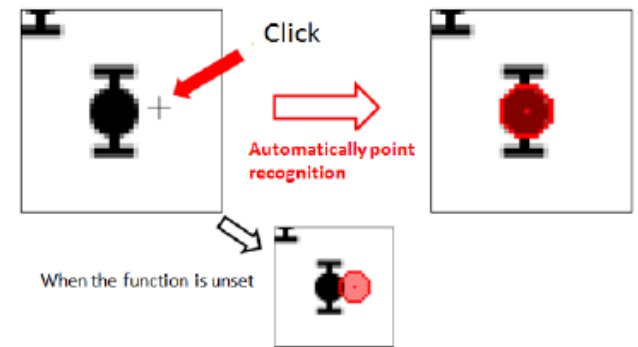
GSYS2



GSYS2.4

GSYS 2.4 Features

- Drag-and-drop feature: shinya, rusuke
- Transparency or points and lines: shinya
- Loupe function: shinya
- Automatically point recognition function: ryusuke
- Addition of Point shape: ryusuke
- Snapshot function: ryusuke
- Magnifying glass function: ryusuke
- Some other improvements
 - Improvement of Auto axis detection function.
 - Add Navigation bar (Magnify, Shrink, reset button)
 - Add command line option (for Unix-like user)



Automatic detection



Glass

Point shape

GSYS 2.4.5 New (by R. Suzuki)

- New:
 - **Status bar** -Show digitized value-
 - **Feed back function** -Can read file which has more than 6 digit data.-
 - **Glass window design** - Glass window become large.
 - **Alarm display** -In case of digitized values on x-axis have same values –
 - Compatibility of “Add” button and “Glass” button
- Bug fix:
 - Drag-and-drop function on Mac OS
 - Automatically recognition function –near the edge of a picture
 - Malfunction - when pictures were expands
 - Read EXFOR format with asymmetry error bar data
 - Read EXFOR format with record recognition code
 - Malfunction - application shutdown

Resources of GSYS

- Official announcement
 - CP-E/145, CP-E/106, CP-E/099
 - INDC(NDS)-0629 "Benchmarking of digitization software" p.19
- GSYS2.X Manual (by Ryusuke SUZUKI), recently updated
- GSYS2.4 Manual
- Other useful resources:
 - -The 4th DAE-BRNS Theme Meeting on EXFOR Compilation of Nuclear Data EXFOR Data Department of Physics, panjab University, Chandigarh, India 4-8 April 2011 (<http://physics.puchd.ac.in/events/exfor2011/>)
 - Introduction to GSYS Digitizer (By Naohiko Ohtsuka@IAEA on behalf of A. Makinaga@JCPRG)
 - GSYS Digitizer(Ver.2.4.0) Quick Practice (by Naohiko Ohtsuka@IAEA)
 - Introduction to digitization software GSYS (by Ryusuke Suzuki@Hokkaido University hospital)
 - Design and implementation of digitization software GSYS(by Ryusuke Suzuki@Hokkaido University hospital)

Demonstration-1

Basic procedure

- Start application(download and start)
- Load image
- Set X-axis and Y-axis
- Mark Points
- Add Error bars
- Output (EXFOR format)

•Download "Gsys2.4.5.exe" to your Desktop
•Gsys2.5.4 should start by clicking "Gsys2.4.5)

Release Version: GSYS 2.4.5
(Aug. 23, 2013)

Download (jar, exe)
Download (for EXFOR compilers) **jar.exe**
Download (for NRDF compilers) (jar, exe)

Manual for Gsys2.4 (Oct. 28, 2012)

GSYS2.4 manual
Second Edition-a
Hokkaido University Hospital
Ryusuke SUZUKI
January 24, 2012
Abstract
GSYS2.4 is an update version of "GSYS version 2". Main features added in this version are "Magnifying glass function", "Automatically point recognition function" and so on. This manual contains a full explanation of operations of the GSYS2.4.

<http://www.jcprg.org/gsys/2.4/>

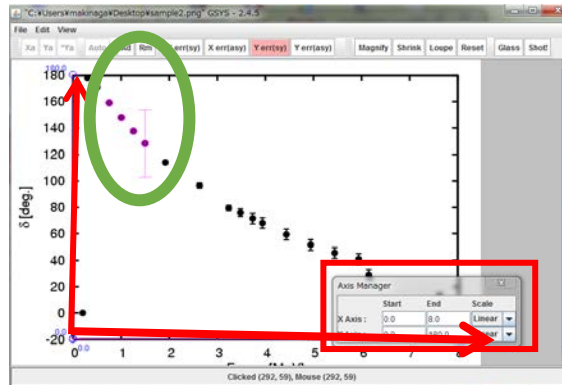
Demonstration-1

Basic procedure

- Start application(download and start)
- Load image
- Set X-axis and Y-axis
- Mark Points
- Add Error bars
- Output (EXFOR format)



Load image
-Drag and drop
-Open file



Set X-axis and Y- axis
Mark Points and add error bars

Output (EXFOR format)



Demonstration-2

Useful function

- Drag-and-drop feature
- Automatic axes detection
- Loupe function
- Orthogonality condition to X-axis and Y-axis
- Magnifying Glass function
- Automatically point recognition function
- Addition of Point shape
- Configuration file
- Snapshot function
- Feedback
- Property of Output

Figure

Drag and drop

Figure is opened

#	x	y	dy
3.235E+00	7.951E+01	2.451E+00	
3.474E+00	7.800E+01	3.431E+00	
3.740E+00	7.167E+01	4.412E+00	
3.937E+00	6.824E+01	4.412E+00	
4.428E+00	5.941E+01	4.412E+00	
4.934E+00	5.157E+01	4.412E+00	
5.440E+00	4.569E+01	4.412E+00	
5.945E+00	4.070E+01	4.412E+00	
6.156E+00	2.902E+01	4.412E+00	
7.602E+00	1.088E+01	4.412E+00	

Numerical data

drag and drop

Numerical data is plotted

Axis

Point

Click

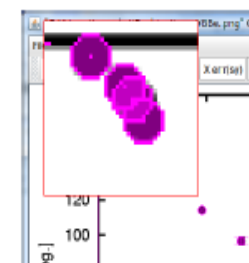
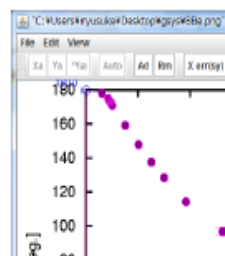
Marked correctly!

Demonstration-2

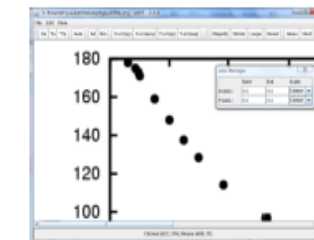
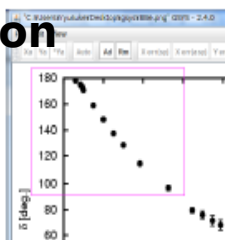
Useful function

- Drag-and-drop feature
- Automatic axes detection
- **Loupe function**
- Orthogonality condition to X-axis and Y-axis
- **Magnifying Glass function**
- Automatically point recognition function
- **Addition of Point shape**
- Configuration file
- Snapshot function
- Feedback
- Property of Output

Glass function



Loupe function



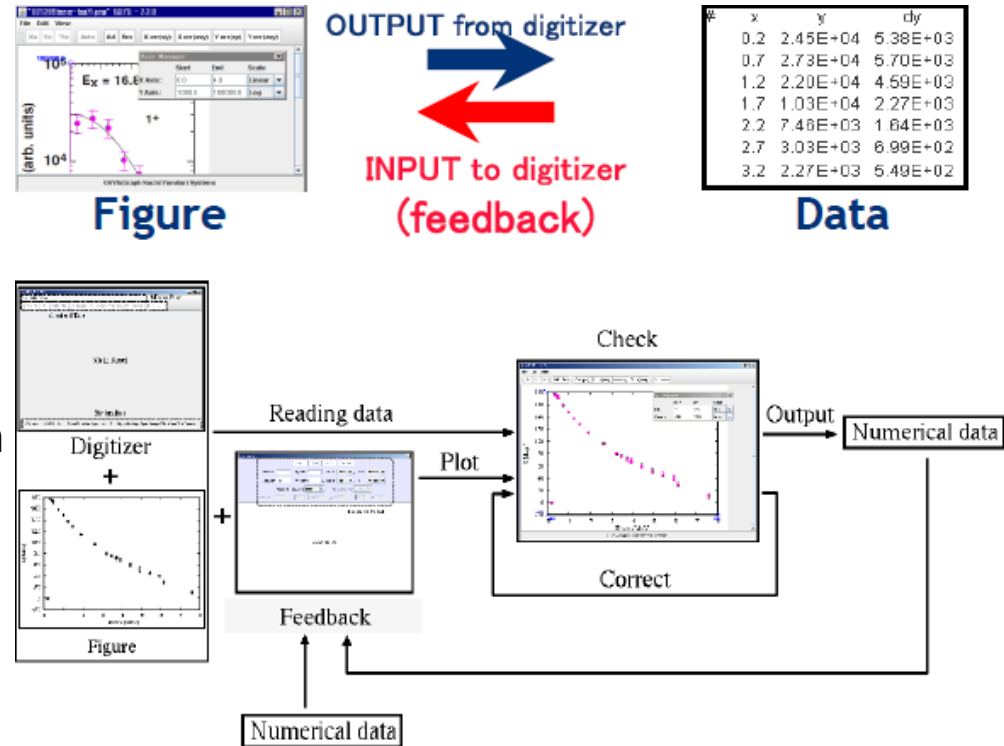
Point shape



Demonstration-2

Useful function

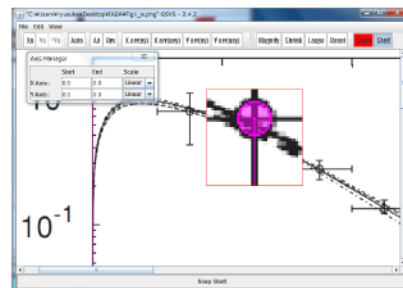
- Drag-and-drop feature
- Automatic axes detection
- Loupe function
- Orthogonality condition to X-axis and Y-axis
- Magnifying Glass function
- Automatically point recognition function
- Addition of Point shape
- Configuration file
- Snapshot function
- **Feedback**
- Property of Output



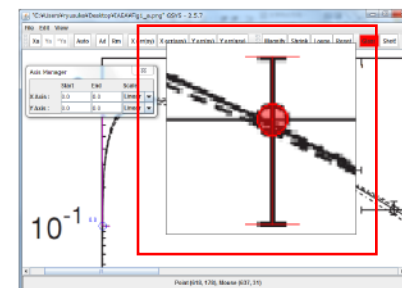
Demonstration-3 New

- Status bar -Show digitized value-
- Feed back function -Can read file which has more than 6 digit data.-
- **Glass window** design- Glass window become large.
- Alarm display -In case of digitized values on x-axis have same values –
- Compatibility of “Add” button and “Glass” button

Glass window design

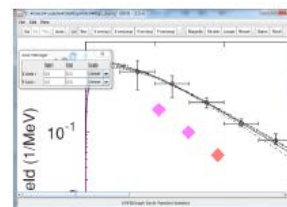


GSYS2.4 : Magnify : x 5, size : 205x205 (fixed)

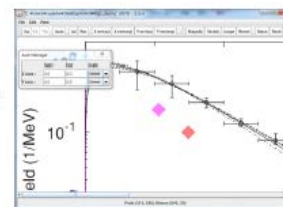


Magnify : x 4, size : 404x404

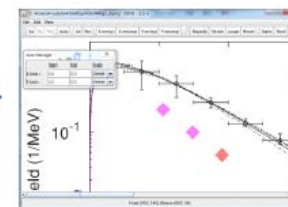
Undo function (future)



Add points



Delete point



Undo ! (Ctrl+Z)

Tools

EXFOR Compilation
internal tool (β
version)

EXFOR Compilation Internal Tool(β version)

- EXFOR Compilation internal tool is a checking tools for EXFOR file to construct prelim/trans files.
- It includes CHEX and ORDER which is developed by V.McLane and extended/maintained by V. Zerkin.
- XDOMINO has been developed by S. Yamaguchi (Hokkaido Univ.)
- X4CINDA has been developed by N. Otsuka

The screenshot shows the web interface for the EXFOR Compilation Internal Tool. At the top, there is a blue header with the JCPRG logo and the text '北海道大学大学院理学研究院附属 原子核反応データ研究開発センター Hokkaido University Nuclear Reaction Data Centre'. Below the header, there is a navigation bar with links for 'NRDF', 'EXFOR', 'CINDA', 'ENDF', 'English', 'Japanese', and 'Internal'. The main content area features the title 'Hokkaido University Nuclear Reaction Data Centre (JCPRG) EXFOR Compilation Internal Tool (β version)'. Below the title, there is a paragraph of text: 'CHEX and ORDER have been developed by Victoria McLane (NNDC) and extended/maintained by Viktor Zerkin (IAEA-NDS). XDOMINO has been developed by Shuji Yamaguchi (Hokkaido Univ.). X4CINDA has been developed by Naohiko Otuka (JCPRG)'. There is a 'Browse...' button, a 'submit' button, and a 'reset' button. Below the buttons, there is a message: 'Submit your trans file and wait a few minutes!'. At the bottom, there is contact information: 'Feel free to inquire anything (web service, contribution to databases etc.): Nuclear Reaction Data Centre, Faculty of Science, Hokkaido University 060-0810 Sapporo, Japan TEL +81(JPN)-11-706-3723 / FAX +81(JPN)-11-706-3724 Partly supported by MEXT, JSPS (Grant-in-Aid for Publication of Scientific Research Results), RIKEN, and Meme Media Lab. in Hokkaido Univ.' and an email address 'services@jcprg.org'.

<http://www.jcprg.org/exfor/tool/>

Demonstration-1

C:\Users\maknaga\Desktop\trans.k013

Submit your trans file and wait a few minutes!

Hokkaido University Nuclear Reaction Data Centre (JCPRG)
EXFOR Compilation Utility

CHEX and ORDER has been developed by Victoria McLane (NNDC) and maintained by Viktor Zerkov (IAEA-NDS). X4CINDA has been developed by Naohiko Otuka (JCPRG).

1. order output
2. chex output
3. flag output

Easy to use

- Push "Browse.." button
- Chose your file
- Push "Submit" button
- You can get ,
 - 1. order output,
 - 2. chex output,
 - 3. flag output

```

TRANS      K013  20130825      K000000000000
ENTRY      K2299 20130619      K229900000001
SUBENT     K2299001 20130619      K229900100001
BIB        14      40          K229900100002
TITLE      Photoproduction of two neutral pions from hydrogen
           near threshold      K229900100003
AUTHOR     (T.Kitagaki, Y.Ohnuki, S.Tanaka, S.Homma, K.Abe) K229900100005
INSTITUTE  (2JPNTOH) Department of Physics      K229900100006
REFERENCE  (J,JPJ,30,(3),595,1971)
PART-DET   (G)
EN-SEC     - ANG1 is polar angle (lab.) between beam and prompt
           gamma 1      K229900100009
           - ANG2 is polar angle (lab.) between beam and prompt
           gamma 2      K229900100011
           - ANG3 is polar angle (lab.) between beam and prompt
           gamma 3      K229900100012
INC-SOURCE Beam intensity is 2.0E+08 PPS.
           (BRST) 50 micro meter platinum target was used for
           producing the photon beam      K229900100014
SAMPLE     - Chemical-form of target is unknown.      K229900100016
           - Physical-form of target is liquid.      K229900100017
           - Target-thickness: Liquid hydrogen target container -
           cylinder with diameter 6 cm and length 10 cm,
           container material is 5-mil Mylar      K229900100018
           K229900100019
           K229900100020
METHOD     (COINC) Detect prompt gamma and prompt gamma in
           coincidence.      K229900100022
FACILITY   (SYNCH,2JPNTOK) 750 MeV electron synchrotron at
           Institute for Nuclear Study (INS)      K229900100023
ANALYSIS   (PHDIF)
           K229900100024
           K229900100025
           K229900100026
           K229900100027
           K229900100028
           K229900100029
           K229900100030
    
```

1. Order output

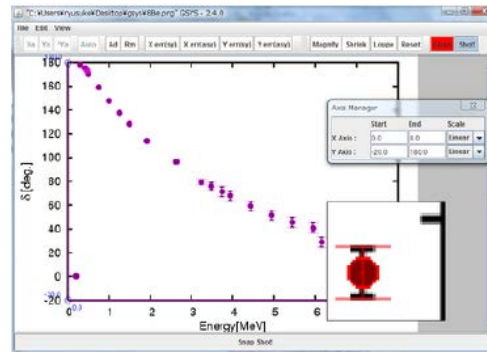
2. Chex output

3. Flag output

Summary

GSYS

- What is GSYS ?
- Japanese digitizing activity
- GSYS 2.4.5 new
- Demonstration
 - 1-Basic procedure
 - 2-Useful function
 - 3-New function



<http://www.jcprg.org/gsys/2.4/>

Tools

- EXFOR Compilation internal tools beta version (CHEX, ORDER, XDOMINO, X4CINDA)



<http://www.jcprg.org/exfor/tool/>