

TT

A Plotting Program for the Experimental and Evaluated Nuclear Reaction Data

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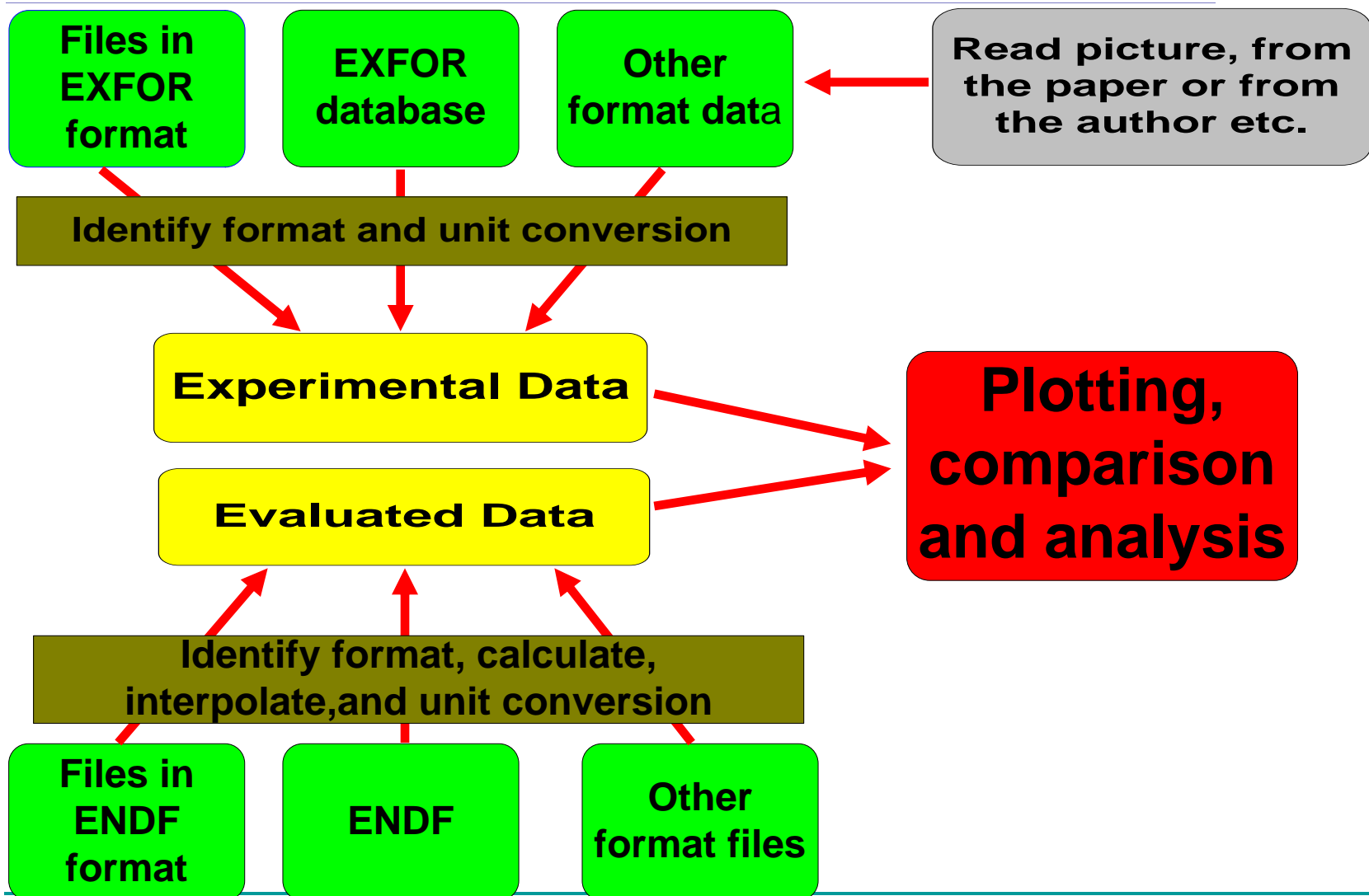
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1. Introduction

- **TT** is a software for data retrieving, conversion, plotting and comparison.
- Supported by China Nuclear Data Center (**CNDC**) .
- Developed by **JIN Yongli** (**CNDC**) .
- A GUI (graphic user interface) platform, run under the **WINDOWS, LINUX, UNIX, etc.**
- Used in **CNDC** and other laboratories of China.

2. Functions (1/3)



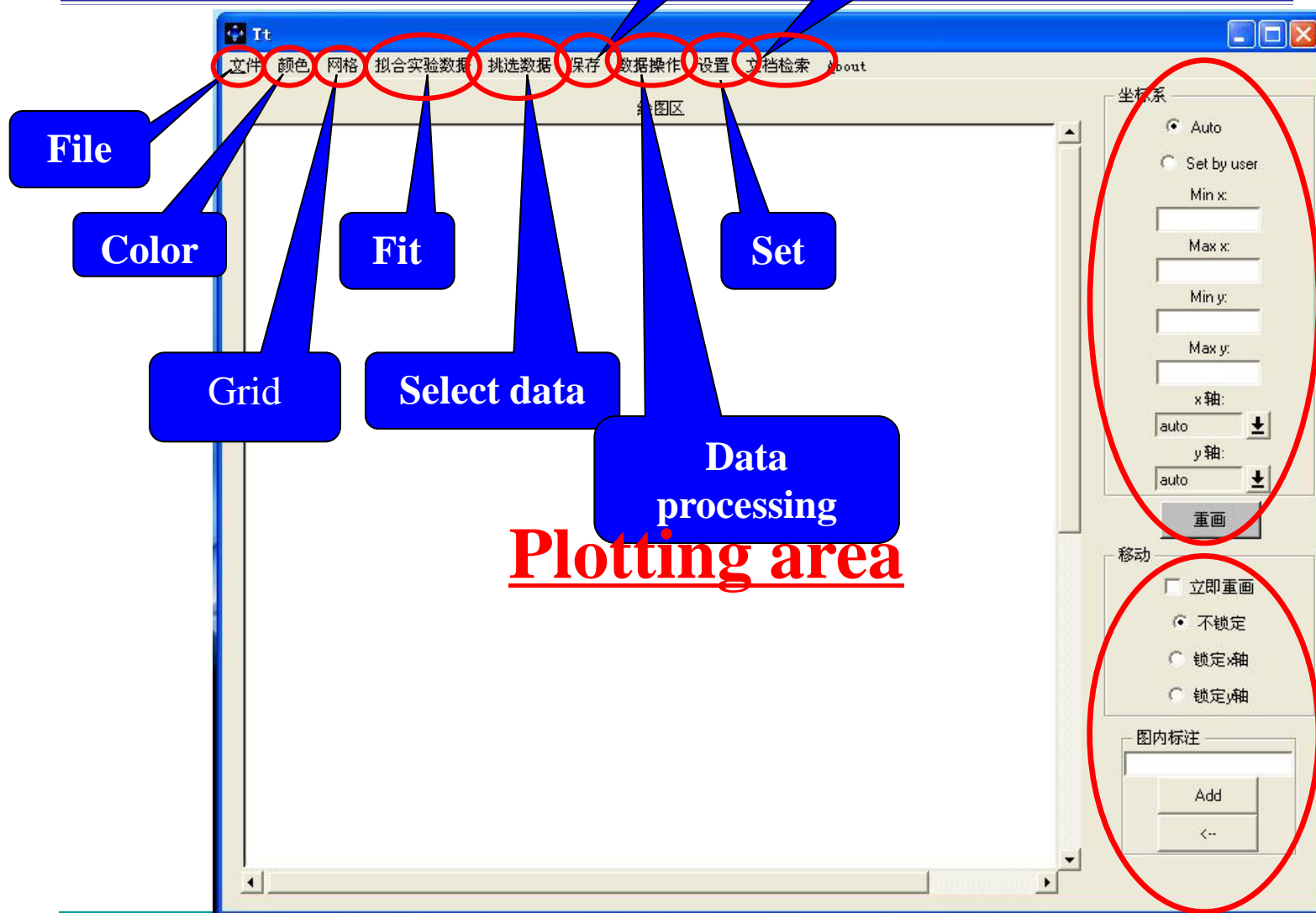
2. Functions (2/3)

- **Treatment of the cross sections, energy spectra, angular distributions, etc.**
- **Comparison of the experimental and evaluated nuclear reaction data.**
- **Using user-defined format data, theoretical calculated results.**
- **Save the plotting data and figure (bmp, jpg, eps,**).
- **Retrieve & transfer the exp. and eval. data from the database online.**

2. Functions (3/3)

Save

Retrieve



The screenshot shows a software window titled 'Tt' with a menu bar containing the following items: 文件 (File), 颜色 (Color), 网格 (Grid), 拟合实验数据 (Fit), 挑选数据 (Select data), 保存 (Save), 数据操作 (Data processing), 设置 (Set), 存档检索 (Retrieve), and about. The main plotting area is labeled '绘图区' (Plotting area) and is highlighted with a red underline and the text 'Plotting area'. The right-hand side of the window contains a control panel with the following sections:

- 坐标系 (Coordinate System):** Includes radio buttons for 'Auto' (selected) and 'Set by user'. Below are input fields for 'Min x:', 'Max x:', 'Min y:', and 'Max y:'. There are also dropdown menus for 'x轴:' (set to 'auto') and 'y轴:' (set to 'auto'), and a '重画' (Redraw) button.
- 移动 (Move):** Includes a checkbox for '立即重画' (Redraw immediately) and radio buttons for '不锁定' (Not locked) (selected), '锁定x轴' (Lock x-axis), and '锁定y轴' (Lock y-axis).
- 图内标注 (Annotation):** Includes a text input field, an 'Add' button, and a '<--' button.

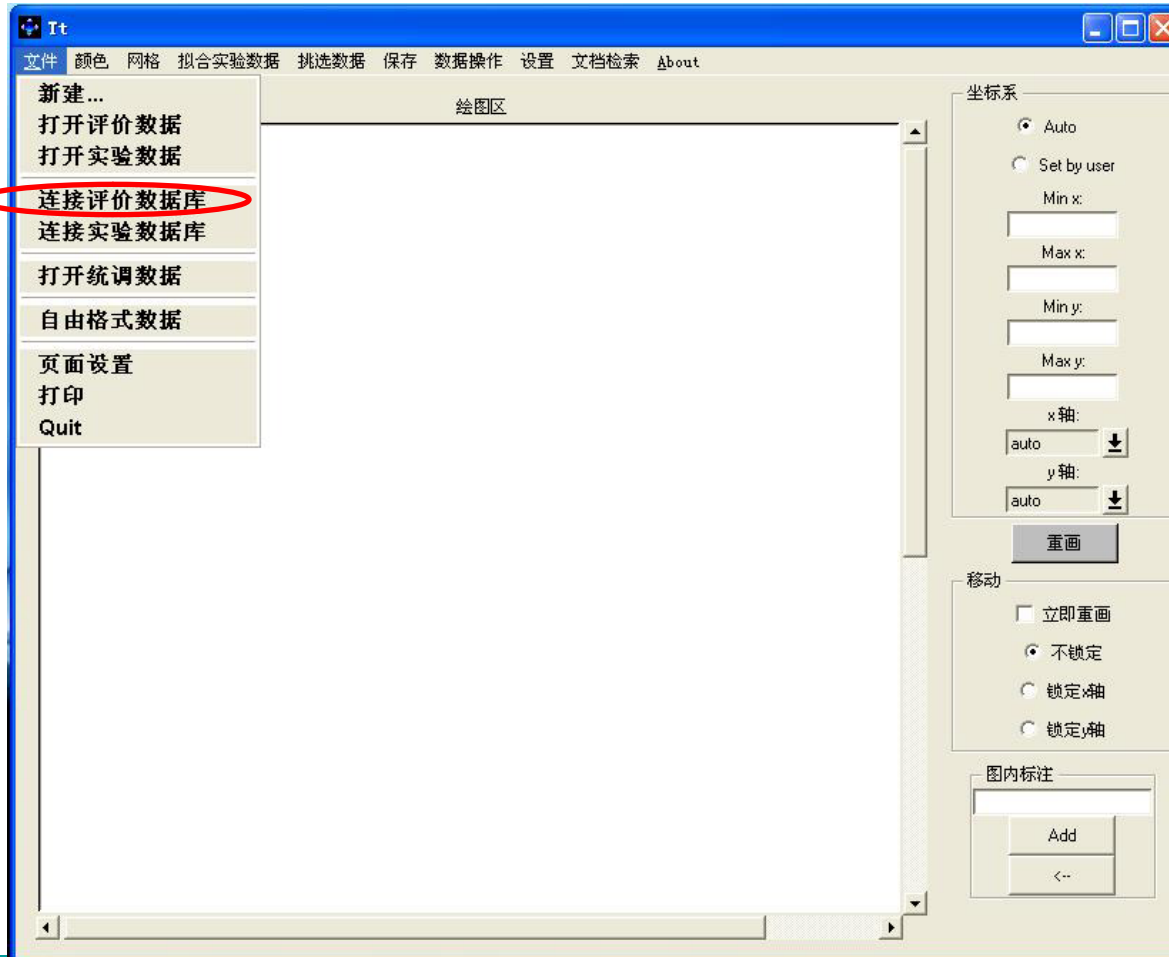
Blue callout boxes point to the following menu items and their corresponding functions:

- 文件 (File) - File
- 颜色 (Color) - Color
- 网格 (Grid) - Grid
- 拟合实验数据 (Fit) - Fit
- 挑选数据 (Select data) - Select data
- 保存 (Save) - Save
- 数据操作 (Data processing) - Data processing
- 设置 (Set) - Set

Red circles highlight the menu items: 文件, 颜色, 网格, 拟合实验数据, 挑选数据, 保存, 数据操作, 设置, 存档检索, and the entire right-hand control panel.

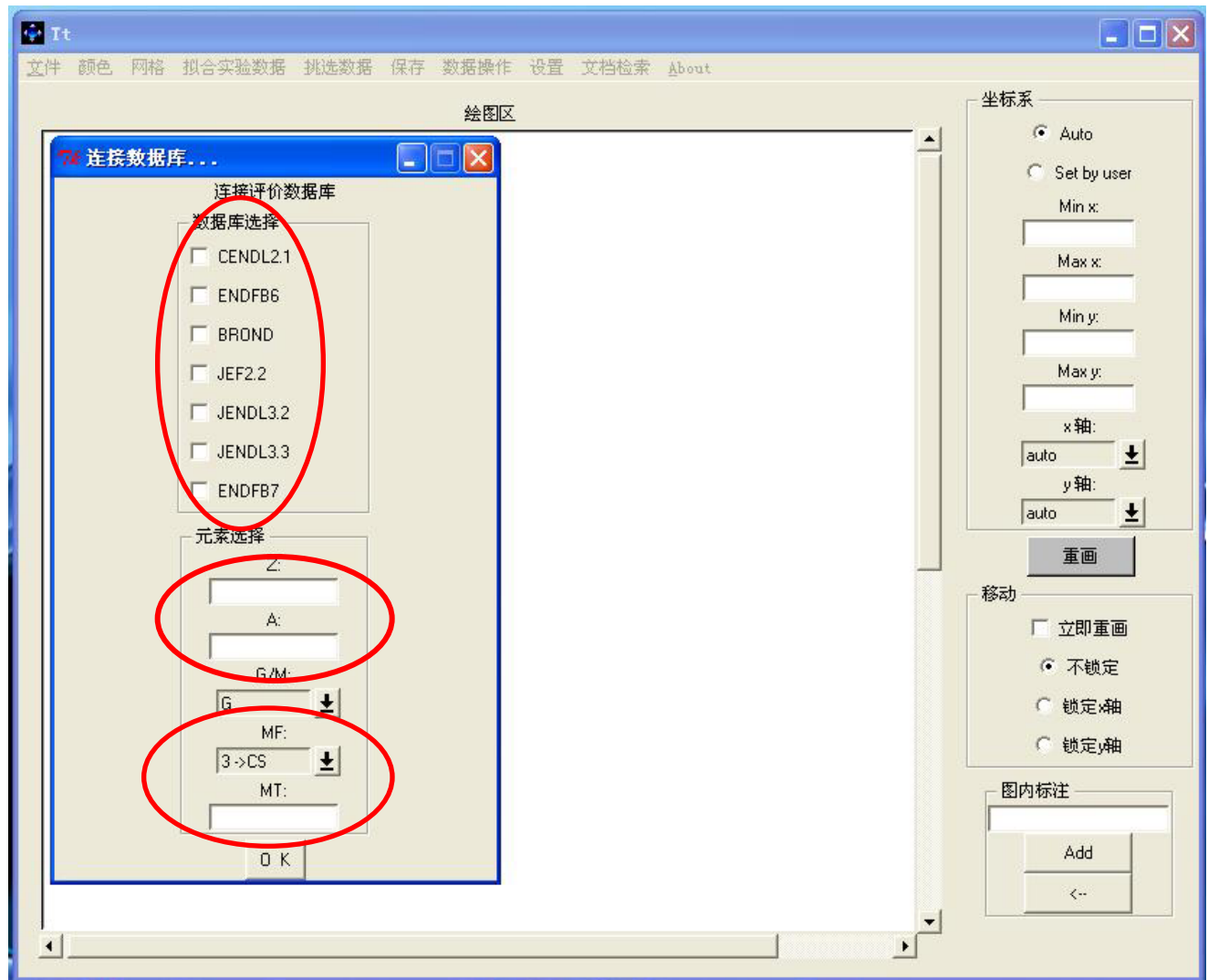
3. Examples (1/9)

3.1 Plotting of the cross sections for $^{56}\text{Fe}(n,2n)$



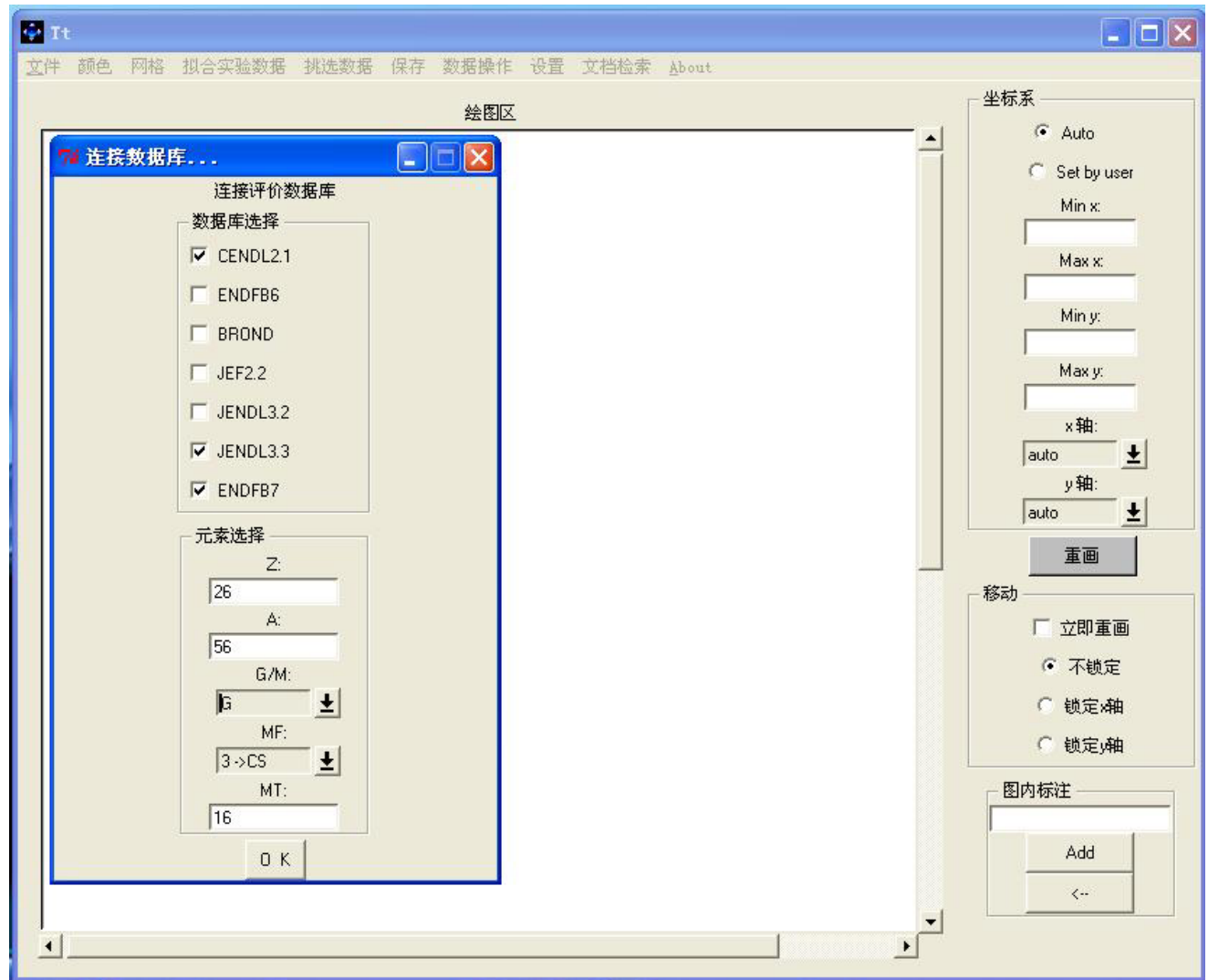
3. Examples (2/9)

**Connect
with the
ENDF
database**



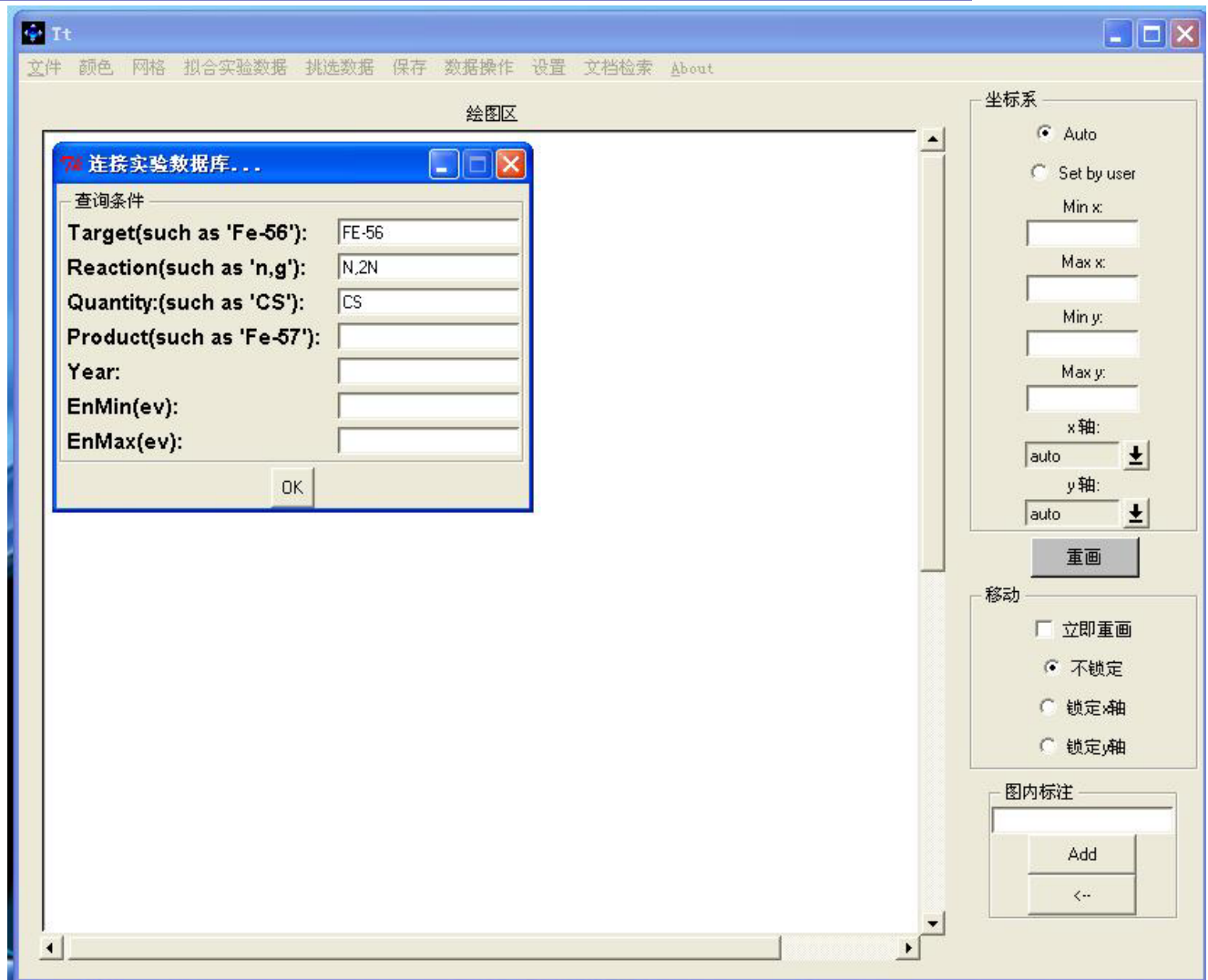
3. Examples (3/9)

Select eval.
libraries
and input
Z,A,MF &
MT

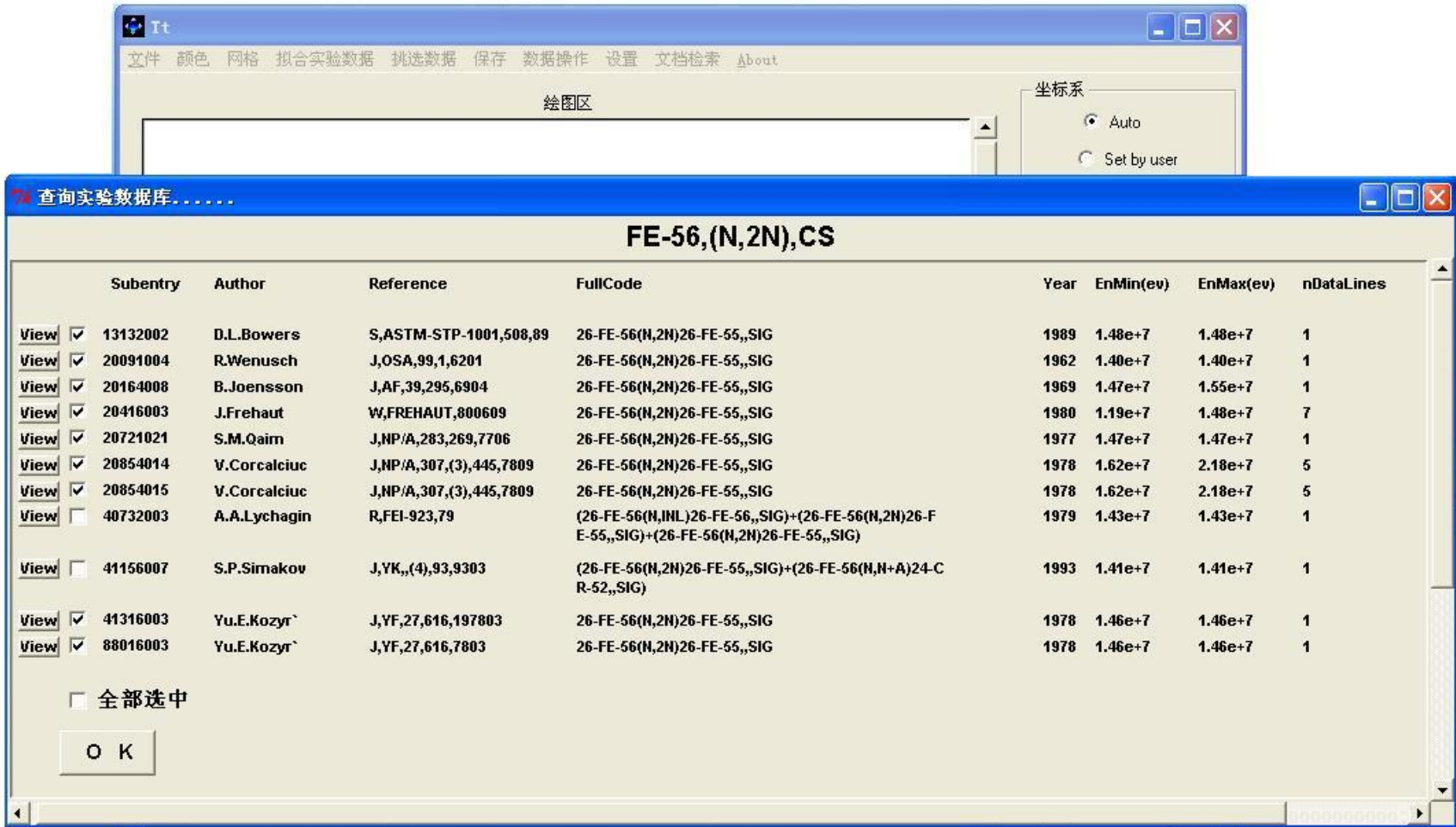


3. Examples (4/9)

Connect
with the
EXFOR
database



3. Examples (5/9)



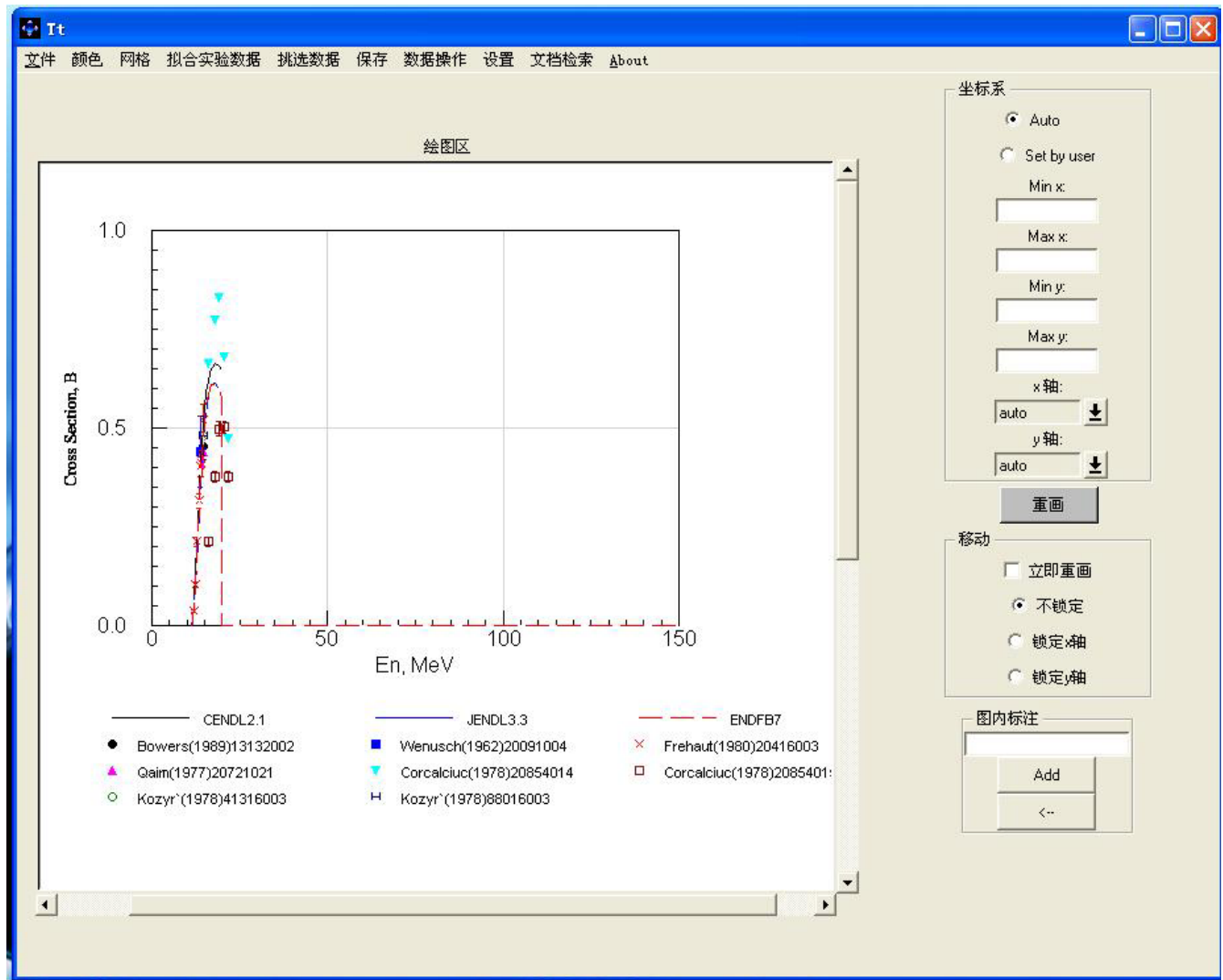
The screenshot shows a software window titled '查询实验数据库.....' (Query Experimental Database.....) displaying a table of experimental data for the reaction $^{56}\text{Fe}(n,2n)^{55}\text{Fe}$. The table includes columns for Subentry, Author, Reference, FullCode, Year, EnMin(ev), EnMax(ev), and nDataLines. A 'View' checkbox is present for each row, and a '全部选中' (Select All) checkbox is at the bottom left. The 'FullCode' column contains codes like '26-FE-56(N,2N)26-FE-55,,SIG' and more complex codes for multiple sub-reactions.

	Subentry	Author	Reference	FullCode	Year	EnMin(ev)	EnMax(ev)	nDataLines
<input checked="" type="checkbox"/>	13132002	D.L.Bowers	S,ASTM-STP-1001,508,89	26-FE-56(N,2N)26-FE-55,,SIG	1989	1.48e+7	1.48e+7	1
<input checked="" type="checkbox"/>	20091004	R.Wenusch	J,OSA,99,1,6201	26-FE-56(N,2N)26-FE-55,,SIG	1962	1.40e+7	1.40e+7	1
<input checked="" type="checkbox"/>	20164008	B.Joensson	J,AF,39,295,6904	26-FE-56(N,2N)26-FE-55,,SIG	1969	1.47e+7	1.55e+7	1
<input checked="" type="checkbox"/>	20416003	J.Frehaut	W,FREHAUT,800609	26-FE-56(N,2N)26-FE-55,,SIG	1980	1.19e+7	1.48e+7	7
<input checked="" type="checkbox"/>	20721021	S.M.Qaim	J,NP/A,283,269,7706	26-FE-56(N,2N)26-FE-55,,SIG	1977	1.47e+7	1.47e+7	1
<input checked="" type="checkbox"/>	20854014	V.Corcalciuc	J,NP/A,307,(3),445,7809	26-FE-56(N,2N)26-FE-55,,SIG	1978	1.62e+7	2.18e+7	5
<input checked="" type="checkbox"/>	20854015	V.Corcalciuc	J,NP/A,307,(3),445,7809	26-FE-56(N,2N)26-FE-55,,SIG	1978	1.62e+7	2.18e+7	5
<input type="checkbox"/>	40732003	A.A.Lychagin	R,FEI-923,79	(26-FE-56(N,INL)26-FE-56,,SIG)+(26-FE-56(N,2N)26-FE-55,,SIG)+(26-FE-56(N,2N)26-FE-55,,SIG)	1979	1.43e+7	1.43e+7	1
<input type="checkbox"/>	41156007	S.P.Simakov	J,YK,,(4),93,9303	(26-FE-56(N,2N)26-FE-55,,SIG)+(26-FE-56(N,M+A)24-CR-52,,SIG)	1993	1.41e+7	1.41e+7	1
<input checked="" type="checkbox"/>	41316003	Yu.E.Kozyr`	J,YF,27,616,197803	26-FE-56(N,2N)26-FE-55,,SIG	1978	1.46e+7	1.46e+7	1
<input checked="" type="checkbox"/>	88016003	Yu.E.Kozyr`	J,YF,27,616,7803	26-FE-56(N,2N)26-FE-55,,SIG	1978	1.46e+7	1.46e+7	1

Retrieve & select experimental data

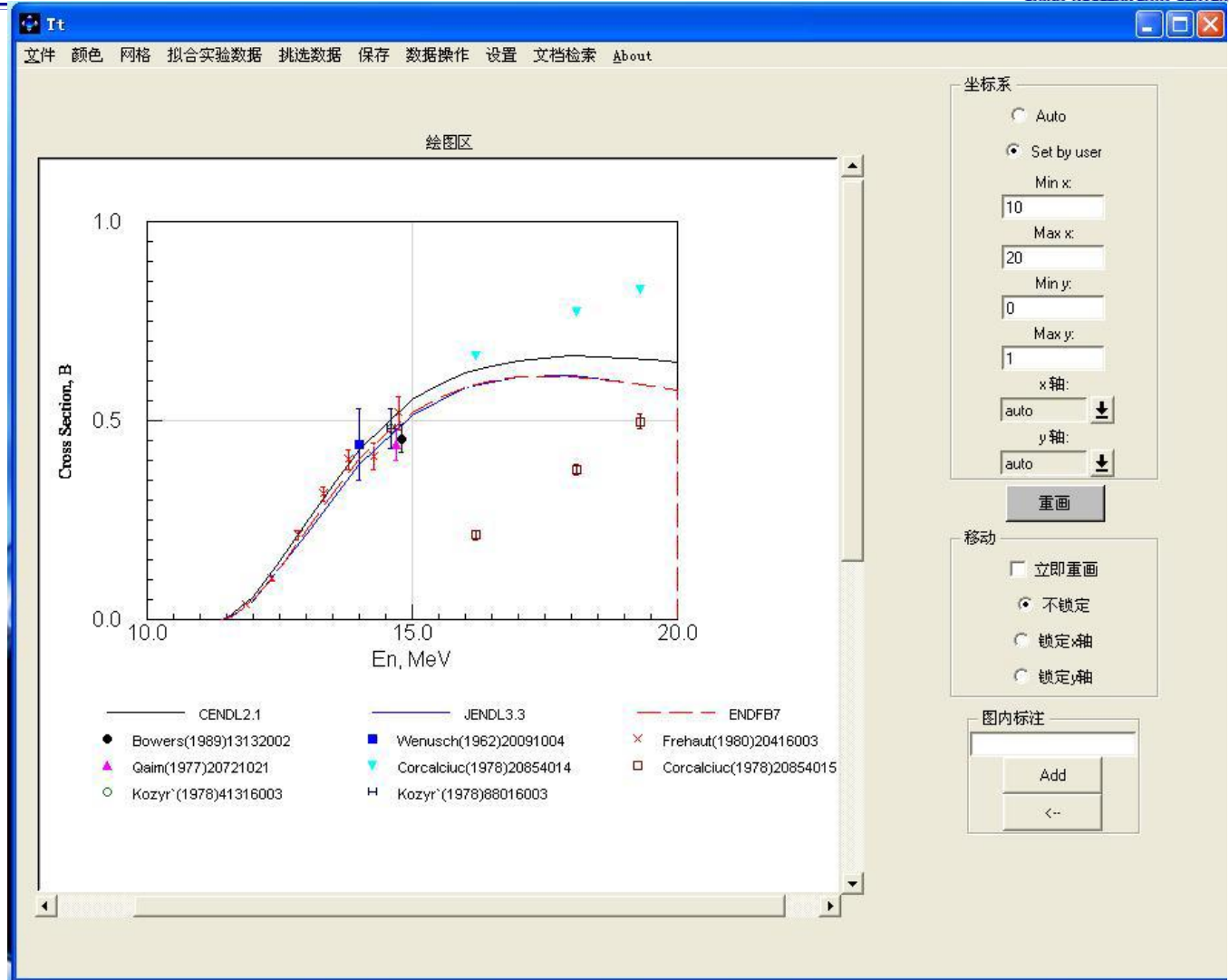
3. Examples (6/9)

Plotting



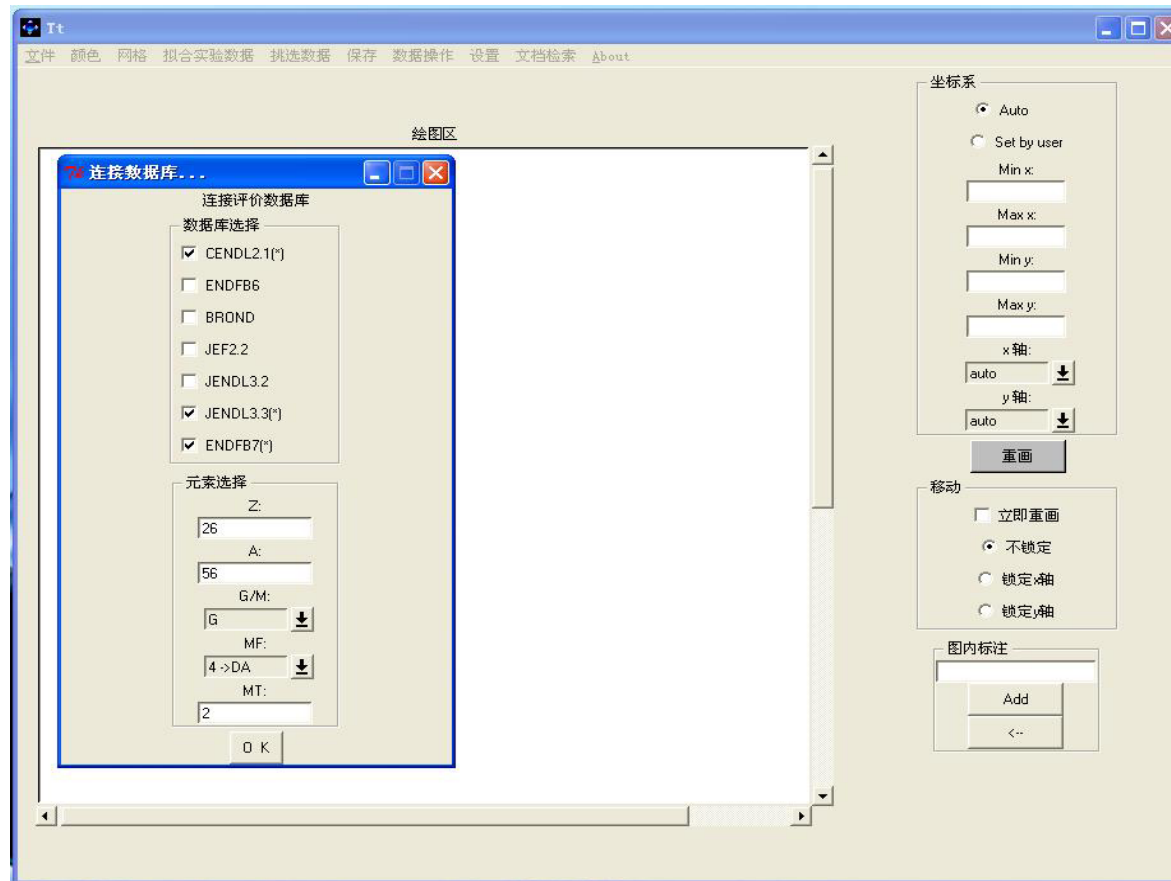
3. Examples (7/9)

Adjust
coordinate
range &
format



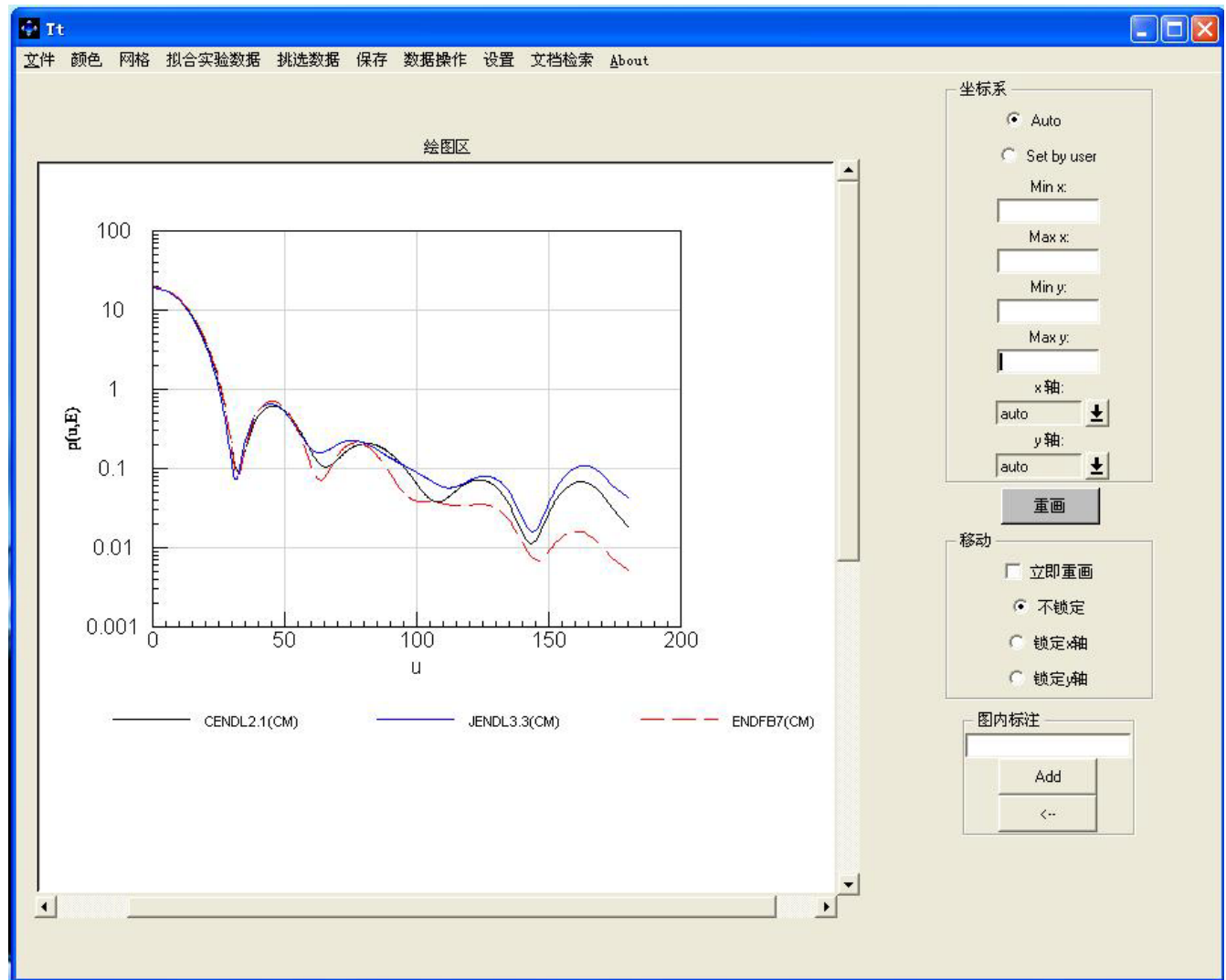
3. Examples (8/9)

3.2 Plotting of the elastic scattering angular distributions for $^{56}\text{Fe}(n,\text{el})$



3. Examples (9/9)

Plotting



4. Conclusions

- This is the **version-1.0** of the TT, and the **version-2.0** is under development.
- New features in the **version-2.0**:
 - ① Additional improvements to the treatment of the double-differential cross sections and the discrete levels data.
 - ② Redefine the format of output files.
 - ③

THANK YOU!!!
