

Development of Web Editor for Charged-Particle Nuclear Reaction Data
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Abstract

We have developed a web editor, HENDEL, which is an editing system of charged-particle nuclear reaction data by using web browsers. With this system, compilers can input data without detailed knowledge of data files such as grammar and data structure. The inputted information is processed to EXFOR and NRDF format simultaneously.

Keyword: Nuclear Data, CPND, WWW, EXFOR, NRDF

1. Introduction

Japan Charged-Particle Nuclear Reaction Data Group (JCPRG) compiles and accumulates the charged-particle nuclear reaction data produced in accelerator facilities in Japan. We edit the data in our own data format (NRDF: Nuclear Reaction Data File) which are distributed through the internet. A part of compiled file is translated to EXFOR format. The purposes of developing the web editor are

- To provide editing environment to compilers who do not have much knowledge of the grammar and structure of nuclear data.
- To output data files in various formats (e.g. EXFOR, NRDF...) simultaneously.
- To provide author proof environment.

2. Advantages of web editor

The internet has given the drastic change in the distribution system of nuclear data. Under this situation, our group has developed retrieval system using web browsers. The advantages of editing nuclear data with a web editor are as follows:

- Compiler can choose the appropriate code from a pull down menu or by writing a value/word in a Q and A style form for each item. Therefore compiler can input nuclear data without detailed knowledge of nuclear data files.
- Illegal codes and errors would be reduced in compiled results by using selective queries instead of descriptive ones.
- We can easily output data files in both of the EXFOR and NRDF formats simultaneously, since most of the necessary information is common in two formats.
- Experimentalists can make proof-editing of the compiled results for their data from remote terminals without much knowledge of data files by using the browsing functions of the editor.
- The web browser is a very familiar tool which works on various OS (e.g. Windows, Macintosh, UNIX...). Compilers can work on their favorite terminals in which a browser is installed.

3. Present Status

In July 2001, beta version has been completed and 25 references are compiled using this editor system. Out of these compiled files, 12 were translated to EXFOR and 6 passed the check at CHEX. Using this editor and CHEX, we can improve the quality not only of EXFOR files but also of NRDF files. This system can plot the graph of numerical data merged in the data file. Then we check the quality of digitized data by comparing with original paper.

4. Conclusion

We have developed a web editor, HENDEL, on trial. JCPRG has started compiling with the web editor to make data files in EXFOR and NRDF formats at the same time. This editor is basically developed according to NRDF coding sheets. The editor consequently gives some limitations for the compilation of EXFOR files at present. It would be possible to improve this editor as an EXFOR editor by extending the input formats through compilation of various types of data.