

# Abstract for the International Conference on Nuclear Data for Science and Technology(NDST-97)

## How to Make the Compilation of NRDF(Nuclear Reaction Data File) More Efficient

— Auxiliary Dictionaries and Coding Editor on the Windows Environment —

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The basic aim of the Japan Charged Particle Nuclear Reaction Data Group(JCPRG) is to construct and to provide an academic-oriented database (called NRDF(Nuclear Reaction Data File)1)) according to its original and unique format by compiling and storing all charged-particle nuclear reaction data produced with Japanese accelerators. One of the characteristics of the NRDF is to compile physical quantities obtained from the nuclear reaction data through the published journals. The physical quantities dealt with in the journals are diverse and being newly set forth and accepted according as the progress in both the experimental devices and techniques and the theoretical knowledge in nuclear physics. The concept and specifications of NRDF are able to incorporate those various and new physical quantities in its data file. In this report we present our recent methodological developments in how to compile the NRDF more efficiently through the published journals.

In the compilation we are, based on the NRDF Dictionaries, coding not only the physical quantities and their relevant deduced parameters but also the experimental conditions, the models and the approximations exploited in the analysis in the experiment. Therefore the maintenance of dictionaries is particularly vital for the compilation. We usually use two dictionaries: one covering Field Name codes, the other Field Value codes. Recently we have prepared two auxiliary dictionaries2) that help the persons easily get proper codes who are engaged in the coding process: one "Hierarchical Index Classified by Terms of NRDF Dictionary" which can tell the NRDF codes corresponding to ordinary terms that are used in the nuclear physics studies, the other "Field-Codes to Value-Codes Correspondence Dictionary" which can tell the field values permissible as the candidates to be assigned to each field name. We have recently developed "NRDF Coding Editor"3) by using Visual Basic processor on the WINDOWS3.1/WINDOWS95 environment which could be installed on the UNIX workstation as well. The editor enables us to automatically keyin a proper value code in the

current field in one window, by referring "Field-Codes to Value-Codes Correspondence Dictionary" and/or "Hierarchical Index Classified by Terms of NRDF Dictionary" in their respective windows and clicking a desired code, so that the selected code may be transferred to the current field in the first window. The specifications of the NRDF Coding Editor is expected to make the coding work considerably easier and more efficient.

References:

- [1] Togashi, M. and Tanaka, H. : "An information system for charged particle nuclear reaction data", Journal of Information Science, Vol.4, No.5, 1982
- [2] Noto, H. : NRDF ANNUAL REPORT 94, No. 8, 1995
- [3] Noto, H. : NRDF ANNUAL REPORT 95, No. 9, 1996