MEMO CP-C/7

Date: January 20, 1977

From: T.W. Burrows TWB

Subject: Proposed Format for the Integral Charged Particle Nuclear Data Bibliography.

It is proposed that the integral charged particle nuclear data bibliography consist of an introduction, three sections, and several appendices. The three sections would separate the data into experimental, review, and theory. References which are considered to be mixed, i.e., substantial experimental and theoretical work in the same reference would be included in both the experimental and theory sections. The CINDA concept of joining all references pertinent to a single experiment into a common data block will be used. Each such block of data will be assigned a 4-digit entry number which will be unique within the publication. Detailed proposals on the various portions and other pertinent information follow.

TENTATIVE DEADLINE

We have set a deadline of early March to produce a preliminary version of this publication for distribution to members of the international charged particle nuclear data network prior to the Kiev meeting in April. Therefore, we would appreciate any comments, criticisms, or suggestions by the second week of February at the latest.

INTRODUCTION

The introduction would include a description of the general criteria employed in the selection of data to be included, a summary of the journal coverage, and a list of bibliographies, compilations, and evaluations pertinent to integral charged particle nuclear data.

DATA SECTIONS

As was noted in the introductory remarks, there will be three sections, experimental, review, and theoretical data. It is felt that this is a very useful and clear separation of the data. It has the advantage that the user interested in only one type of data, e.g., experimental, will not have to sift through the other two types of data. It has the disadvantage, of course, that the user interested in all the data on a given reaction would have three sections to scan.

Each of these sections would have two subsections. The main subsection would be ordered by incident particle, target nucleus, residual nucleus, outgoing particles or processes, and quantity measured. Within this ordering, the blocks would be ordered by increasing minimum energy. This subsection would be complete, containing all references of a block which have not been superceded. The second subsection would be ordered by residual nucleus and quantity measured. Within this order, the entries would be ordered by target nucleus and incident particle and finally by increasing minimum energy.

Obviously, this subsection would not be inclusive, since it would not contain references for which there are no residual nuclei, e.g., measurements of total cross sections. Also, only the main reference of a block would be given, along with the entry number of the block in the main subsection and a data flag if the block contains a data index line.

The proposed formats of these subsections are given in attachment 1 and sample pages are given in attachment 2. It should be noted that the organization of data within a line is very tentative and may change substantially as we experiment with producing the publication.

APPENDICES

The appendices will be similar to those in CINDA, providing detailed explanations of the listings and expansions of the mnemonics. However, these appendices would be limited to only the information included in the publication.

GENERAL INFORMATION

The formatting of the subsections have been designed for 6½"x9" page (size of CINDA). Assuming this page size, the publication should run to about 100 pages this year, excluding appendices. It is estimated that the publication will increase approximately 80 pages per year. Although the sample pages are printed in upper-case Latin characters only, we will exert every effort consistent with our deadline to include super-and subscripling, lower case, and appropriate Greek characters. Our minimum goal this year will be to have these capabilities for the reaction, branch, and parameter information, and for the author.

POSSIBLE OPTIONS

We have also discussed including in the publication other subsections and sections. However, we are reluctant to include these options since they could expand the size of the publication considerably.

One such option would be a subsection ordered by target nucleus, incident particle, and quantity. Within this order, the entries would be ordered by outgoing particle or process and by residual nucleus and finally by increasing minimum energy. Another option would be by incident particle and outgoing particle or process, followed by various suborderings. These options would have formats similar to the second subsection.

We have also discussed including a reference section which would be ordered by year (most recent first) and alphabetically by author. Reference and laboratory codes would be slightly expanded (e.g., Phys. Rev. C instead of PR/C; Calif. Inst. Tech. instead of CAL). Each reference would be followed by a list of the entry numbers of the blocks containing the reference.

FUTURE RETRIEVAL CAPABILITIES

To satisfy specialized user needs, we should eventually be able to retrieve and sort on any of the descriptors or combination of descriptors except for the comments. By the deadline of this first publication we will have retrieval capabilities similar the proposed ordering in the publication and perhaps similar to those capabilities descriped as options.

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ATTACHMENT 1

Format for Main Subsections

col.	1- 4	Entry number
	6- 8	Laboratory Code
	10-12	Reference Type
	14-30	Reference Code
	33-37	Minimum Energy
	39-43	Maximum Energy
	46-88	Author, Branch and Modifiers, Comments

Format for Second Subsections

col.	1- 5	Target Nucleus
	7-11	Incident Particle
	14-18	Minimum Energy
	20-24	Maximum Energy
	27-29	Laboratory Code
	31-45	Author
	48-51	Entry Number
	52	Data Flag
	84-133	Same as cols. 1-52

ATTACHMENT 2

SAMPLE PAGE OF MAIN SUBSECTION FOR EXPERIMENTAL DATA

```
-------------------------------------------------------------------------------
 NO. LAB   REFERENCE                EMIN  EMAX    AUTHOR, BRANCH AND MODIFIERS, COMMENTS
                                   (MEV) (MEV)
-------------------------------------------------------------------------------
                                          H1(P,TOTAL)  SIGMA(E)
0001  UI ABS DAT   36 94552 76  15,          POTTER,
                                        HE3(P,ABSORPTION)  SIGMA(E)
0002 MNA JOU PR/C  13 2 451 76  18,2  47,6  SOURKES+  TBL,  10 POINTS,
                                       HE4(P,ABSORBTION)  SIGMA(E)
0003 MNA JOU PR/C  13 2 451 76  18,2  47,6  SOURKES+  TBL,  16 POINTS,
                                         LI(P,N)  PRODUCT YIELD
0004 USP ABS /6LOWELL  1388 76   7,   10,   CYBULSKA+  EMMISSION,  NDG,
                                      LI(P,N)  THICK TARGET YIELD
0005 TNL ABS /6LOWELL  1476 76    +1         NELSON+  EMMISSION,  NDG,
0006 BIR ABS BAP   21111337 76 THRES  3,0   CAMPELL+  EMMISSION,  NDG,
                                      LI6(P,ABSORPTION)  SIGMA(E)
0007 MNA ABS BAP   21 8 987 76  25,   48,   SOURKES+  NDG,
                                      LI6(P,NPA)H1  SIGMA(E)
0008 MNA ABS BAP   21 4 535 76  28,5        BONBRIGHT+  SEQUENCE,  NDG,
                                      LI6(P,PA)H2  SIGMA(E)
0009 MNA ABS BAP   21 4 535 76  28,5        BONBRIGHT+  SEQUENCE,  NDG,
                                      LI7(P,ABSORPTION)  SIGMA(E)
0010 MNA ABS BAP   21 8 987 76  25,   48,   SOURKES+  NDG,
                                      LI7(P,N)BE7  SIGMA(E)
0011 KTY JOU NIM  133 2 253 76    +0   4,2  SEKHARAN+ CURV. 4PI DETECTOR,
0012 LRL JOU PR/C  14 2 438 76   4,2  26,   POPPE+  CURV,  TOF,
0013 MSU ABS BAP   21 81007 76  25,   45,   SCHERY+  NDG,  ACTIVATION,
                                      AL27(P,A)MG24  SIGMA(E)
0014 RIC JOU JGR   81325689 76  15,5  40,   WALTON+  CURV,
         JOU JGR   79 1 314 74  16,3  42,2  PART, SUPER,  CORR. TO JGR 78,6428(1973)
         JOU JGR   78286428 73  16,3  42,2  PART, BY JGR 79,314(1974),
         THE WALTON         74  15,5  40,   PARTIALLY SUPERCEDED,
                                      CU63(P,N)ZN63  SIGMA(E)
0015 BRK JOU PR    C0   939 50   3,9  22,1  GHOSAL,  CU-0 TARGET,
         DAT EXFORD0017,005 76   3,9  22,1  10 ENTRIES,
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SAMPLE OF SECOND SUBSECTION
(ONE COLUMN ONLY)

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-----------------------------------------------
TARGT  INC    EMIN  EMAX  LAB     AUTHOR      NO,
              (MEV) (MEV)
-----------------------------------------------
                  H1  SIGMA(E)
 LI6      P   28,5        MNA BONBRIGHT+     0008
                  H2  SIGMA(E)
 LI6      P   28,5        MNA BONBRIGHT+     0009
                 BE7  SIGMA(E)
 LI7      P     +0  4,2   KTY SEKHARAN+      0011
 LI7      P    4,2  26,   LRL POPPE+        0012
 LI7      P   25,   45,   MSU SCHERY+        0013
                MG24  SIGMA(E)
AL27      P   14,5  40,   RIC WALTON+        0014
                ZN63  SIGMA(E)
AL27      P    3,9  22,1  BRK GHOSAL,        0015
```