

The Progress Report of CNDC to NRDC Meeting(12 – 14 October 2005, Vienna, Austria)

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1 General

Chinese Nuclear Data Committee assumes responsibility the management of CENDL project. The committee meetings are generally held once per year. China Nuclear Data Center serves as the secretariat of Chinese Nuclear Data Committee. At present, the CNDC staffs are 18, the CNDC consists of the following four group:

- Nuclear Data Evaluation Group
- Nuclear Theory Group
- Macroscopic Data Group
- Data Library Group

2 Nuclear Data Evaluation

CENDL-3.0:

From 1996 to 2001, we have completed the evaluation of CENDL-3.0, total 209 nuclides are include CENDL-3.0, among them, the data of 169 nuclides were newly evaluated. The data are contained in the energy range from 10.5 eV to 20 MeV. The fission product nuclide file of CENDL-3 has been officially released on October 6, 2001. It includes 2 evaluations from CENDL-2.1($^{107, 109}\text{Ag}$) and 101 new evaluations for 100 isotopes. The other file of CENDL-3.0 have been tested and improved for the problems found in the test within china.

• CENDL-3.1

The CENDL meeting was held on 17-18 March 2005, the meeting decided the next release version of CENDL is CENDL-3.1 library, the release of CENDL-3.1 is foreseen in the end of 2005. The data file will contain the update of CENDL-3.0 .

• New evaluations

The following nuclear data evaluations have been completed: ^9Be , ^{12}C , ^{31}P , ^{51}V , nat,106,108,110,111,112Cd, ^{55}Mn , ^3He , 127,129,132,132m,133,133m,134,134m,135,136,136m,137,138,139,140I, 84,86,88,90,92,94,96Rb, 87,88,90,91,92,93,94,95,96,97,98,99,100Y, 92,94,96,98,100,102,104,106Mo, 233,234,235,236,237,241,242,243,244U, 244,245,246Pu, 240,241,242,243,244,245,246Am, 236,237,238,239Np and 232,233,234Th.

• Nuclear data for ADS

In order to satisfy the need of ADS project of China, a code MEND for calculating the nuclear data in medium energy region has been developed, The following nuclear data have been calculated and evaluated:

Nuclear data for incident neutron from 20 to 250MeV: $^{50,52,53,54}\text{Cr}$, $^{54,56,57,58}\text{Fe}$, $^{90,91,92,94,96}\text{Zr}$, $^{180,182,183,184,186}\text{W}$, $^{204,206,207,208}\text{Pb}$, ^{238}U .

Nuclear data for incident proton from threshold energy to 250MeV: ^{54,56,57,58}Fe, ^{180,182,183,184,186}W, ^{204,206,207,208}Pb, ²⁰⁹Bi, ²³⁸U.

• **Structure and decay data**

The nuclear structure and decay data evaluation group in China Nuclear Data Center (CNDC) has permanent responsibility for evaluating and updating NSDD for A=51,195-198; temporary for A= 61,67 and 170. The evaluation of ²³³Pa decay data was finished.

3. CINDA and EXFOR Compilation

CINDA: According to the conclusion of the last NRDC meeting, CNDC scan the journal of CNP(Chinese J.of Nuclear Physics). AS the journal of CNP stopped publication in 1998, the journal of CNP from 1979 to 1998 have been scanned, the CINDA compilation of the journal of CNP have been done and send to NDS.

EXFOR: 3 entries (one of them cooperation with Ms. S.Dunaeva) measured in China have been compiled and send to NDS, 17 entries will be send to NDS soon.

4. Nuclear physics basic database

The project is supported by Ministry of science and technology of china, it contains the following data base:

- Nuclear structure and Nuclear Decay database
- Nuclear Model Parameters and computing programs library
- Special Purpose database
- Experimental Database
- Evaluation Nuclear data library

5. Nuclear Data Service:

- A Powerful software TT was developed for nuclear data retrieve and evaluation under Windows and Linux platforms.
- IAEA NDS Mirror site will constructed in CNDC

6. The meeting and symposium:

- (1) The symposium on Nuclear Data Future need, Jan. 2005,Nanjing
- (2) The symposium on Nuclear Data library, Mar. 2005, Beijing
- (3) The symposium on Structure and decay data, Jun. 2005,Guizhou
- (4) 2005 China Nuclear data conference, Aug. 2005, Xining

7. International Co-operation:

At present, The scientists of CNDC participate in three IAEA Coordinated Research Projects: Evaluated Nuclear Data for Thorium-Uranium Fuel Cycle; Parameters for Calculation of Nuclear Reactions of Relevance to Non-energy Applications (RIPL-3); Updated Decay Data Library for Actinides.

In the past year, 5 scientists visited the CNDC, 2 scientists of CNDC visited the

NNDC devoted to the merging of fission product nuclide files.