Consultancy Meeting on model code output & application nuclear data form structure

Report of Contributions

https://conferences.iaea.org/e/andfs

Contribution ID: **3** Type: **not specified**

J.-Ch. Sublet (IAEA) "AnDFS white paper"

Monday 15 March 2021 14:15 (30 minutes)

Presenter: Dr SUBLET, Jean-Christophe (IAEA)

Session Classification: Day 1

Contribution ID: **4** Type: **not specified**

T. Kawano (LANL) “DeCe: the ENDF-6 data interface and nuclear evaluation assist code”

Monday 15 March 2021 14:45 (30 minutes)

Presenter: Dr KAWANO, Toshihiko (LANL)

Session Classification: Day 1

Contribution ID: **5** Type: **not specified**

O. Iwamoto (JAEA) "output of the CCONE code and creation of ENDF-6 format file"

Monday 15 March 2021 15:15 (30 minutes)

Presenter: Dr IWAMOTO, Osamu (JAEA)

Session Classification: Day 1

Contribution ID: **6** Type: **not specified**

D. Wiarda (ORNL) "Status of GNDS support in AMPX/SAMMY and future outlook"

Monday 15 March 2021 15:45 (30 minutes)

Presenter: Dr WIARDA, Dorothea (ORNL)

Session Classification: Day 1

Contribution ID: **7** Type: **not specified**

K. Tada (JAEA) “Handling the evaluated data format and ACE format in FRENDY”

Monday 15 March 2021 16:15 (30 minutes)

Presenter: Dr TADA, Kenichi (JAEA)

Session Classification: Day 1

Contribution ID: **9** Type: **not specified**

D. Rochman (PSI) "Resonance's form and format: TARES Inside"

Tuesday 16 March 2021 14:00 (30 minutes)

Presenter: Dr ROCHMAN, Dimitri

Session Classification: Day 2

Contribution ID: **10** Type: **not specified**

A. Koning (IAEA) "TENDL: completeness and limitations of the ENDF-6 format"

Tuesday 16 March 2021 14:30 (30 minutes)

Presenter: Dr KONING, Arjan

Session Classification: Day 2

Contribution ID: **11** Type: **not specified**

P. Romano (ANL) "OpenMC's Nuclear Data Pipeline and HDF5 Format"

Tuesday 16 March 2021 16:00 (30 minutes)

Presenter: Dr ROMANO, Paul

Session Classification: Day 2

Contribution ID: **12** Type: **not specified**

I. Thompson (LLNL) “Tools using GNDS for the inter-conversion of inputs and outputs for R-matrix codes”

Wednesday 17 March 2021 14:00 (30 minutes)

Presenter: Dr THOMPSON, Ian

Session Classification: Day 3

Contribution ID: **14** Type: **not specified**

Z. Ge (CIAE) ”Utilities of Nuclear data library at CNDC”

Presenter: Dr GE, Zhigang

Session Classification: Day 2

Contribution ID: **15** Type: **not specified**

D. Griesheimer (NNL) Nuclear Data Needs for High-Fidelity Reactor Multiphysics Calculations

Wednesday 17 March 2021 15:30 (30 minutes)

Presenter: Dr GRIESHEIMER, David

Session Classification: Day 3

Contribution ID: **16** Type: **not specified**

J. Shimwell (UKAEA) ”Nuclear data processing with OpenMC”

Wednesday 17 March 2021 15:00 (30 minutes)

Presenter: Dr SHIMWELL, Jonathan

Session Classification: Day 3

Contribution ID: **17** Type: **not specified**

J.-Ch. Sublet (IAEA) "GNDS, ENDF, HENDF, PENDF, GENDF, ANISO, ACE data forms and format

Wednesday 17 March 2021 16:00 (30 minutes)

Presenter: Dr SUBLET, Jean-Christophe (IAEA)

Session Classification: Day 3

Contribution ID: **18** Type: **not specified**

G. Noguere (CEA) From nuclear model parameters to neutronic simulation with the CONRAD and LAST codes

Wednesday 17 March 2021 16:30 (30 minutes)

Presenter: Dr NOGUERE, Gilles (CEA)

Session Classification: Day 3

Contribution ID: **20** Type: **not specified**

G. Chiba (Hokkaido Univ.) CBZ: the deterministic reactor physics code system

Tuesday 16 March 2021 15:30 (30 minutes)

Presenter: Dr CHIBA, Go (Hokkaido University)

Session Classification: Day 2

Contribution ID: **21** Type: **not specified**

C. Mattoon (LLNL) FUDGE and GNDS: an overview

Monday 15 March 2021 17:00 (30 minutes)

Presenter: Dr CALEB, Mattoon (LLNL)

Session Classification: Day 1

Contribution ID: **22** Type: **not specified**

B. Beck (LLNL) GIDI+ API support for GNDS: current status and future plans

Tuesday 16 March 2021 16:30 (30 minutes)

Presenter: Dr BECK, Bret

Session Classification: Day 2

Contribution ID: **24** Type: **not specified**

CBZ: the deterministic reactor physics code system

Nowadays, several highly qualified and easy-to-use continuous-energy Monte Carlo particle transport codes have been developed, and numerical simulations related to the nuclear reactor physics and the radiation shielding are conducted with them. However, the deterministic method is still important since it is free from statistical uncertainties and simulation results can be obtained faster with it than with the Monte Carlo codes. In the deterministic methods, energy discretization is required, so energy-averaged (multi-group) nuclear data are essential.

A deterministic reactor physics code system CBZ has been being developed at Hokkaido University for the research work in the field of nuclear reactor physics, and now it is utilized for various applications in the nuclear reactor physics such as fast reactor core design work. The application field of CBZ is now being enlarged to the temperature profile calculations at the nuclear waste repository site and the optimization study of the neutron source for medical
use.

With CBZ, various types of numerical simulations can be conducted such as the nuclear reactor kinetics calculations with the explicit fission product model, nuclear fuel depletion calculations with the detailed or compressed depletion chain, sensitivity and uncertainty analyses on nuclear fuel burnup characteristics with the help of the generalized perturbation theory, and so on. For these simulations, relevant nuclear data such as reaction cross
sections for neutron and photon, photon generation data, decay and fission yield data for fuel burnup and delayed neutron emission, and the covariance data.

As mentioned above, CBZ is based on the deterministic method, so the multi-group nuclear data are essential. The NJOY99 and NJOY2016 have been used to generate multi-group data so far, but now the new codes FRENDY and FRENDY/MG have been adopted to the multi-group data generation system in CBZ.

Primary author: Dr CHIBA , Go (Hokkaido University)

Presenter: Dr CHIBA , Go (Hokkaido University)

Session Classification: Day 2

Contribution ID: **25** Type: **not specified**

T. Ogawa ”Recent Needs From Transport Codes”

Wednesday 17 March 2021 14:30 (30 minutes)

Presenter: OGAWA, Tatsuhiko (JAEA)

Session Classification: Day 3

Contribution ID: **27** Type: **not specified**

W. Haeck, ”Nuclear data components in NJOY21”

Wednesday 17 March 2021 17:00 (30 minutes)

Presenter: HAECK, Wim (LANL)

Session Classification: Day 3