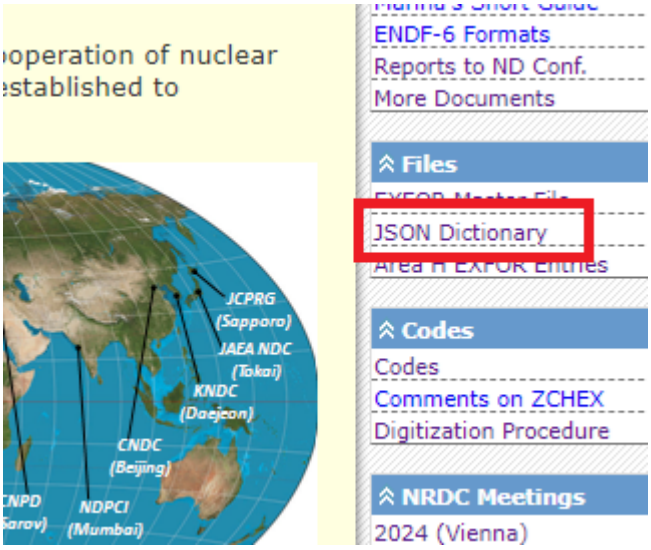
EXFOR/CINDA Dictionary in JSON

(N. Otsuka, 2023-09-25, Memo CP-D/1090)

Note added to WP2024-08:

Do you encounter any problem in use of the transmission dictionary produced by the new procedure trans.9929 (corresponding to the official transmission dictionary trans.9129)? If not, I am going to adopt this new procedure (=conversion from the Archive Dictionaries to the Transmission Dictionary via the JSON Dictionary) for production of the official transmission dictionary since the next update (trans.9930).

The latest version of the JSON Dictionary is available from the NRDC website:



As I briefly introduced in the NRDC 2023 meeting, I produced an EXFOR/CINDA Dictionary in JSON. Its main aim is to produce a TRANS dictionary without relying on the Fortran program DAN2X4. The first TRANS dictionary produced by this new procedure (TRANS.9928) was released on 30 June 2023 (c.f. Memo CP-D/1086) for your testing and comments. I plan to release one more trial version (TRANS.9929) in December 2023, and to adopt this new procedure for production of the official TRANS dictionary (TRANS.9930) in June 2024.

The JSON dictionary is currently just a scratch file to produce a TRANS dictionary for me. But it could be useful for some end users and/or programmers, and I decided to share the latest version of the JSON dictionary with the user community on the NRDC website (https://nds.iaea.org/nrdc/file/dson.html). It is a single plain text file.

You can easily extract the expansion or other dictionary field by some programming languages. Below is an example to extract the expansion of the quantity code `CUM,FY,,FRC` (Fractional cumulative yield) from the JSON dictionary dict_arc_all.9928.json by Python3:

```
$ python3
Python 3.9.9 (main, Jun 22 2022, 09:13:57)
>>> import json
>>> f=open("dict_arc_all.9928.json")
>>> json=json.load(f)
>>>
print(json["236"]["CUM,FY,,FRC"]["expansion"])
Fractional cumulative fission product yield
>>>
```

Please visit the website (or report IAEA-NDS-0243) for more details.