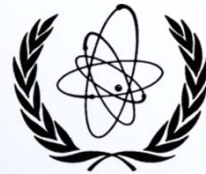


ENDF Web-API used in X4Pro

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Implementation of ENDF Web retrievals

Python modules

x4pro1-trial/x4pro9/rweb11.py
x4pro1-trial/x4pro9/rweb11.py

retrieve SIG: MF3/MF33

retrieve DA: MF4/MF34, MF5, MF6, MF8

Used packages

import requests
import json

Retrieve data in two steps

- 1) get list of datasets for Target, MF, MT*
 - 2) retrieve datasets for selected Libraries, form dataset for plotting {x[], y[], dy[]}*
- All data retrieved in JSON form*

Retrieving SIG MF3/MF33, step-1: get list

www-nds.iaea.org/exfor/servlet/E4sSearch2?Target=ni-58&Reaction=n,a&Quantity=SIG&json

```
{
  "format": "WebEndfSectionsList-0.1"
  , "now": "2022-12-13T21:33:09.000Z"
  , "program": "E4sSearch2, by V.Zerkin, IAEA-NDS, ver.2020-03-04"
  , "req": 5461
  , "sections": [
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  ]
}
```

Retrieving SIG MF3/MF33, step-2: get data

www-nds.iaea.org/exfor/servlet/E4sGetTabSect?PenSectID=19054824&json

```
{
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  , "program": "E4sGetTabSect, by V.Zerkin, IAEA-NDS, ver.2020-02-11"
  , "datasets": [
    { "id": "19054824" , "FILE": "PENDF"
      , "dataType": "Cross section"
      , "LIBRARY": "JENDL-5"
      , "TARGET": "NI-58" , "TEMP": 293.16
      , "NSUB": 10 , "MAT": 2825 , "MF": 3 , "MT": 107
      , "REACTION": "NI-58 (N,A) FE-55, SIG"
      , "COLUMNS": [ "E,eV", "Sig,b", "dSig,b", "Int,interpolation-law" ]
      , "defaultInterpolation": "Lin-Lin"
      , "nPts": 6941
      , "pts": [
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          , { "E": 1.103037e-5 , "Sig": 0.001092299 , "dSig": 7.49317e-05 }
          , { "E": 1.216691e-5 , "Sig": 0.001040032 , "dSig": 7.13462e-05 }
          , { "E": 1.342055e-5 , "Sig": 9.90266e-4 , "dSig": 6.79322e-05 }
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          . . . . .
        ]
      }
    ]
  }
}
```

Retrieving DA MF4, step-1: get list

www-nds.iaea.org/exfor/servlet/E4sSearch2?Target=Mn-55&Reaction=n,el&Quantity=DA*&json&mats

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Retrieving DA MF4, step-2: get data

www-nds.iaea.org/exfor/servlet/E4sGetSectData?EvalID=272544&PenSectID=24012375&json&ei=3.4e6

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}
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Retrieving DA MF4/MF34, step-2: get data

www-nds.iaea.org/exfor/servlet/E4sGetSectData?EvalID=272544&PenSectID=24012375&json&ei=3.4e6&dy

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Thank you.