**Nuclear Data Section**

**International Atomic Energy Agency**

**P.O.Box 100, A-1400 Vienna, Austria**

**Memo CP-D/1122**

**Date:** 7 January 2025

**To:** Distribution

**From:** N. Otsuka

**Subject: New DOI related EXFOR utility tools (REFDOI, REFBIB)**

I used to obtain DOI, EXFOR draft (TITLE and AUHTOR) and BibTeX file for a given EXFOR reference code by using a Perl script, which online version is available on the JCPRG EXFOR web tool (<https://www.jcprg.org/exfor/tool/>). I rewrote this tool as a Python script **REFBIB**. I also made another Python script **REFDOI**, which checks presence of a reference coded under REFERENCE, REL-REF and MONIT-REF. These scripts are included in ForEX ver. 2025-01-05 and distributed from the NRDC software website (<https://nds.iaea.org/nrdc/nrdc_sft/>).

**REFDOI**

This tool extracts reference codes under REFERENCE, REL-REF and MONIT-REF in an EXFOR input file, and check presence of each reference in CrossRef for articles published in journal volumes registered in CrossRef. If CrossRef does not return a DOI, such a reference code is reported as a suspicious one for further checking.

*Example*: Checking of references in PRELIM.1486

% ./x4\_refdoi.py

REFDOI (Ver-2025-01-05) run on 2025-01-06

-----------------------------------------

input EXFOR file [exfor.txt] --------> prelim.1486

JSON Dictionary [dict\_9131.json] ---->

Output DOI file [x4\_refdoi\_out.txt] ->

your email address ------------------> n.otsuka@iaea.org

TRANS 1486 20210920

ENTRY C 10212 20210813

ENTRY C 10267 20210917

…

REFBIB: Processing terminated normally.

DOI: 10.1103/PhysRev.71.65

REFBIB: Processing terminated normally.

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2 suspicious reference code(s) detected

13343.001 REL-REF J,PR/A,179,1188,1969

14707.001 REFERENCE J,PR,76,434,1949

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REFDOI: Processing terminated normally.

Note that these two references codes were corrected by NNDC during finalization of TRANS.1486.

**REFBIB**

This script receives an EXFOR reference code or DOI as an input, and output the CrossRef output (DOI, JSON or XML) or the output processed to EXFOR or BibTeX.

I would like to thank Kenta Suzuki (Hokkado Univ.) for proposing me adoption of a Python module unicodedata for removal of accent symbols for the EXFOR format output.

***Example:*** Extraction of metadata for J,NIM,215,193,1983 (EXFOR 30654)



**Command line input**

% ./x4\_refbib.py

REFBIB (Ver-2025-01-05) run on 2025-01-06

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EXFOR reference code or DOI [J,NDS,120,272,2014] -> J,NIM,215,193,1983

JSON Dictionary [dict\_9131.json] ----------------->

output bibliography file [x4\_refbib\_out.txt] ----->

output format [doi] ------------------------------> exfor

your email address -------------------------------> n.otsuka@iaea.org

DOI: 10.1016/0167-5087(83)91308-X

REFBIB: Processing terminated normally.

The output file (refdoi\_out.txt) depends on the output format chosen (exfor, bibtex, json or xml):

**Output format= “exfor”**

TITLE Calibration of Homalite CR-39 plastic track

 detector for light particle spectrometry

 and its application in studying the (n,

 alpha) and (n, p) reaction on 51V

AUTHOR (Naeem A.Khan, Hameed A.Khan, M.Ahmad

 K.Jamil, M.Anwar, S.M.Saleem, K.Gul)

**Output format= “bibtex”**

@article{,

 author ={Khan, Naeem A. and Khan, Hameed A. and Ahmad, M. and Jamil, K. and Anwar, M. and Saleem, S. M. and Gul, K.}

 title ={Calibration of {Homalite} {CR-39} plastic track detector for light particle spectrometry and its application in studying the {(n,} {\ensuremath{\alpha})} and {(n,} {p)} reaction on {51V}

 jounal ={Nuclear Instruments and Methods in Physics Research}

 year ={1983}

 volume ={215}

 pages ={193--198}

 doi ={10.1016/0167-5087(83)91308-X}

}

**Output format= “json”**

{

 "license": [

 {

 "content-version": "tdm",

 "URL": "https://www.elsevier.com/tdm/userlicense/1.0/",

 "delay-in-days": 0,

 "date-parts": [

 1983,

 9,

 1

 ],

…

**Output format= “xml”**

<?xml version="1.0" encoding="UTF-8"?>

<crossref\_result xmlns="http://www.crossref.org/qrschema/3.0" version="3.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.crossref.org/qrschema/3.0 http://www.crossref.org/schemas/crossref\_query\_output3.0.xsd">

 <query\_result>

 <head>

 <doi\_batch\_id>0000</doi\_batch\_id>

 </head>

 <body>

 <query status="resolved">

 <doi type="journal\_article">10.1016/0167-5087(83)91308-X</doi>

…

This tool can produce a BibTeX entry even for an article irrelevant to EXFOR as long as it has a DOI assigned by CrossRef.

*Example*: A BibTeX entry for D. Yearsley, Early Music 30 (2002) **224** produced by REFDOI with DOI (10.1093/em/30.2.224):

@article{,

 author ={Yearsley, D},

 title ={The awkward idiom: hand-crossing and the European keyboard scene around 1730},

 journal={Early Music},

 year ={2002},

 volume ={30},

 pages ={224--235},

}

**Distribution:**

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**cc:**

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