



# NSR Web Interface

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# NSR Overview

Bibliographic database of nuclear physics references

- ~427k entries at time of writing
- Assigns each entry a key number, i.e. **2006MuZX**
- Used for tracking research cited in ENSDF/XUNDL

# Exchange Format

Original entries stored in pseudo-XML format

- Not used anywhere else
- Requires custom parsing code to read

Whitespace used to fill required 80-column line length

Opening tags must occupy exactly 10 spaces, therefore names must occupy exactly 8

```
<KEYNO  >2023WIZZ
<HISTORY >A20230625
<CODEN  >CONF Sacramento(Nucl Data for Sci and Technol) Proc,P12005,Wiarda
<REFERENCE>Proc.15th Intern.Conf.Nuclear Data for Science and Technology (ND2022)
,Sacramento, Ca.,Held virtually, July 21-29, 2022, C.M.Mattoon et al. Eds., p.1
2005 (2020);EPJ Web of Conf.Vol.284 (2023)
<AUTHORS >D.Wiarda, G.Arbanas, J.M.Brown, A.M.Holcomb, M.T.Pigni, J.McDonnel, C.
Chapman
<TITLE  >Modernization efforts for the R-Matrix code SAMMY
<DOI    >10.1051/epjconf/202328412005
```

No closing tags to mark end of content

# Exchange to JSON (1/2)

Original files converted "on the fly" to simplify data access/usage

Key names not required to fit minimum/maximum lengths

Support for data types - string, integer, boolean, array, etc.

No 80-column line length requirement - files can be formatted (see right) or minified

```
{
  "key_number": "2023WIZZ",
  "publication_year": 2023,
  "entry_type": "A",
  "entry_date": "2023-06-25",
  "coden": "CONF Sacramento(Nucl Data for Sci and Technol) Proc,P12005,Wiarda",
  "reference": "Proc.15th Intern.Conf.Nuclear Data for Science and Technology (ND2022),
  "authors": [ ...
],
  "title": "Modernization efforts for the R-Matrix code SAMMY",
  "doi": "10.1051/epjconf/202328412005",
  "sentence_groups": [],
  "selector_groups": [],
  "pdf_available": false,
  "xundl_available": false,
  "exfor_keys": []
}
```

# Exchange to JSON (2/2)

JSON structure can be extended to serve special needs

```
"authors": [  
  {  
    "text": "D.Wiarda",  
    "initials": [ "D" ],  
    "last_name": "Wiarda"  
  },  
  {  
    "text": "G.Arbanas",  
    "initials": [ "G" ],  
    "last_name": "Arbanas"  
  },  
  {  
    "text": "J.M.Brown",  
    "initials": [ "J", "M" ],  
    "last_name": "Brown"  
  }  
],
```

Author names split into initials and last names for BibTeX citations

```
"sentence_groups": [  
  [  
    {  
      "topic": "NUCLEAR_REACTIONS",  
      "indexed": true,  
      "phrases": [  
        {  
          "primary_type": "REACTION",  
          "secondary_type": "NONE",  
          "text": "{+235}U,{+239}Pu(n,F), E<20 MeV"  
        },  
        {  
          "primary_type": "CALCULATED",  
          "secondary_type": "NONE",  
          "text": "calculated pre-neutron fragment mass yields"  
        }  
      ]  
    }  
  ]  
],
```

KEYWORDS field split up into sentences and groups for easier categorization

# New Interface: nsr-dev

## Nuclear Science References (NSR)

NSR Reference Paper [NIM A 640, 213 \(2011\)](#)  
Database version of January 11, 2024

The NSR database is a bibliography of nuclear physics articles, indexed according to content and spanning more than 100 years of research. Over 80 journals are checked on a regular basis for articles to be included. For more information, see the [help page](#). The NSR database schema and Web applications have undergone some recent changes. This is a revised version of the NSR Web Interface.

Archive files from previous versions of NSR can be found [here](#).

**Quick Search** | Text Search | Indexed Search | Keynumber Search | Combine View | Recent References

Author  
Brown or B.A.Brown

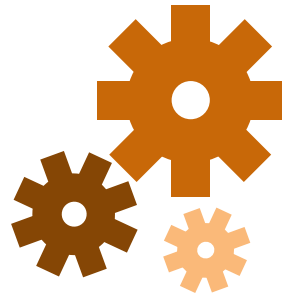
Nuclide  
<sup>31</sup>Na or ca-38

Reaction  
n,g or (n,g) or (160,160)

Publication Year from  to

Reference Type  All  Experiment  Theory

Output Format  HTML  BibTex  Text



## Nuclear Science References (NSR)

NSR Reference Paper [NIM A 640, 213 \(2011\)](#)

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**Filters**

**Quick Search** | Text Search | Indexed Search | Keynumber Search | DOI Search

Author  
Brown or B.A.Brown

Nuclide  
<sup>31</sup>Na, <sup>144</sup>Xe, etc.

Reaction  
n,g or (n,g) or (160,160)

# tabulator.js

Results now shown in a paginated table for convenience

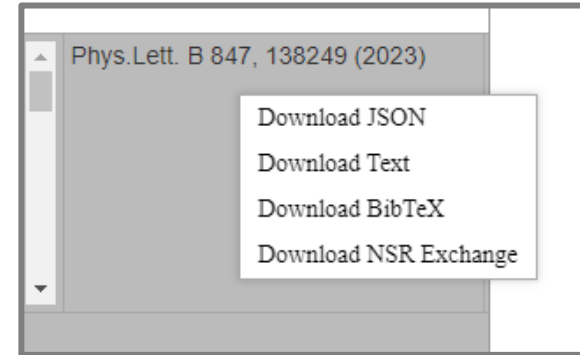
Page Size	10	First	Prev	1	2	3	4	5	Next	Last
Key #	DOI + Links	Authors	Reference							
2023WIZZ	<a href="https://doi.org/10.1051/epjconf/202328412005">10.1051/epjconf/202328412005</a> <a href="#">PlumX Metrics</a>	D.Wiarda G.Arbanas J.M.Brown A.M.Holcomb M.T.Pigni J.McDonnel C.Chapman	Proc. 15th Intern. Conf. Nuclear Data for Science and Technology (ND2022), Sacramento, Ca., Held virtually, July 21-29, 2022, C.M.Mattoon et al. Eds., p. 12005 (2020); EPJ Web of Conf. Vol. 284 (2023)							
<b>Title</b> Modernization efforts for the R-Matrix code SAMMY										
<b>Keywords</b>										
2023WI05	<a href="https://doi.org/10.1016/j.physletb.2023.138249">10.1016/j.physletb.2023.138249</a> <a href="#">PlumX Metrics</a>	K.Wimmer P.Ruotsalainen S.M.Lenzi A.Poves T.Huyuk F.Browne P.Doornenbal T.Koiwai T.Arici	Phys.Lett. B 847, 138249 (2023)							
<b>Title</b> Isospin symmetry in the T = 1, A=62 triplet										
<b>Keywords</b> <ul style="list-style-type: none"><li>NUCLEAR_REACTIONS <math>^{12}\text{C}(^{62}\text{Zn}, ^{62}\text{Zn}')</math>, <math>(^{62}\text{Ga}, ^{62}\text{Ga}')</math>, <math>(^{62}\text{Ge}, ^{62}\text{Ge}')</math>, E ~ 165 MeV/ nucleon; <math>^{24}\text{Mg}(^{40}\text{Ca}, 2n)^{62}\text{Ge}</math>, E=106 MeV; measured reaction products, E<sub>γ</sub>, I<sub>γ</sub>. <math>^{62}\text{Zn}</math>, <math>^{62}\text{Ga}</math>, <math>^{62}\text{Ge}</math>; deduced γ-ray energies, J, π, level schemes, mirror energy differences as a function of the spin of the state. Comparison with the shell-model calculations with the K3BGR (GXPF1A) effective interactions. The Radioactive Isotope Beam Facility operated by the RIKEN Nishina Center and CNS, University of Tokyo, and the Accelerator Laboratory of the University of Jyväskylä (JYFL-ACCLAB).</li></ul>										

# Download Formats

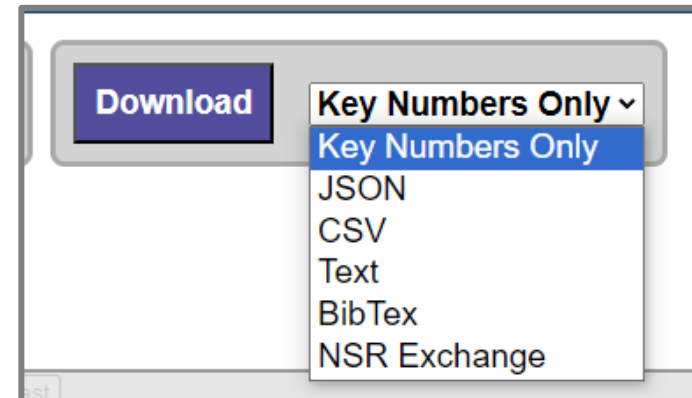
Search results can be saved as:

- JSON
- Comma-Separated Values
- Plain Text
- BibTeX Citations
- NSR Exchange

Printing/formatting handled by client-side JavaScript



Right-click to for single-entry downloads

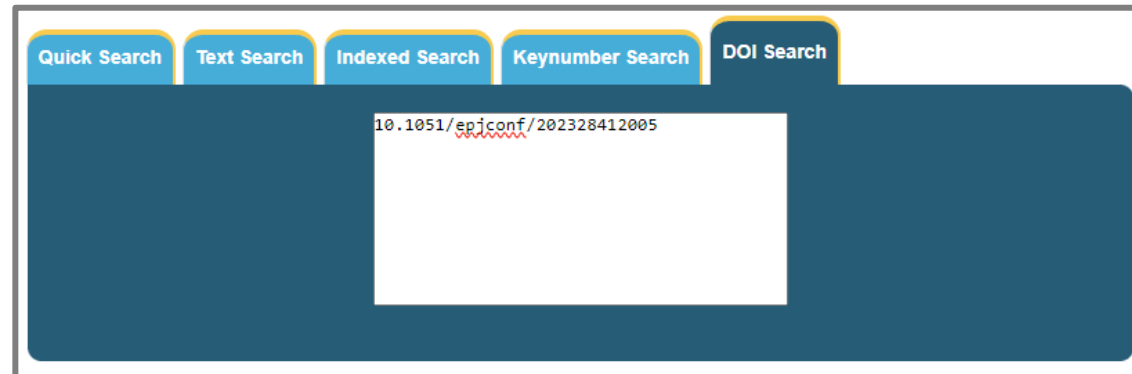


Use button to download entire results list



# Search by DOI

nsr-dev now able to find entries using DOI strings



Page Size	10	First	Prev	1	Next	Last
Key #	DOI + Links	Authors	Reference			
2023WIZZ	<a href="https://doi.org/10.1051/epjconf/202328412005">10.1051/epjconf/202328412005</a> <a href="#">PlumX Metrics</a>	D. Wiarda G. Arbanas J.M. Brown A.M. Holcomb M.T. Pigni J. McDonnell C. Chapman	Proc. 15th Intern. Conf. Nuclear Data for Science and Technology (ND2022), Sacramento, Ca., Held virtually, July 21-29, 2022, C.M. Mattoon et al. Eds., p. 12005 (2020); EPJ Web of Conf. Vol. 284 (2023)			
<b>Title</b> Modernization efforts for the R-Matrix code SAMMY						
<b>Keywords</b>						

# Feedback Welcome

New interface is currently live at:

<https://www.nndc.bnl.gov/nsr-dev/>

Questions? Suggestions? Requests?

[bshu@bnl.gov](mailto:bshu@bnl.gov)