Brookhaven National Laboratory

U.S. DEPARTMENT OF ENERGY

# NSR Web Interface

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January 2024

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# NSR Overview

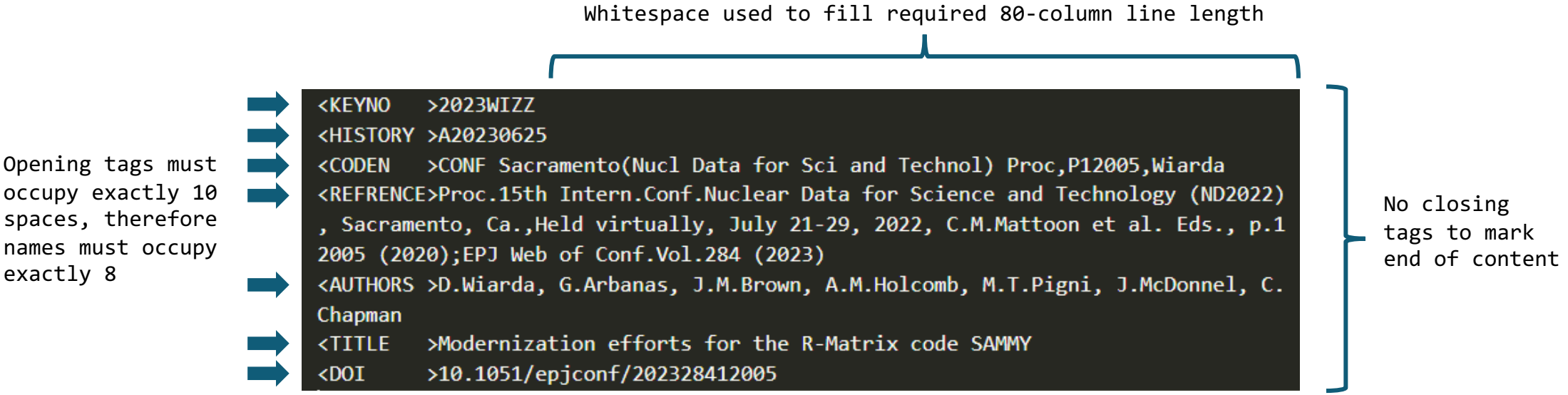
Bibliographic database of nuclear physics references

- ~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



# 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

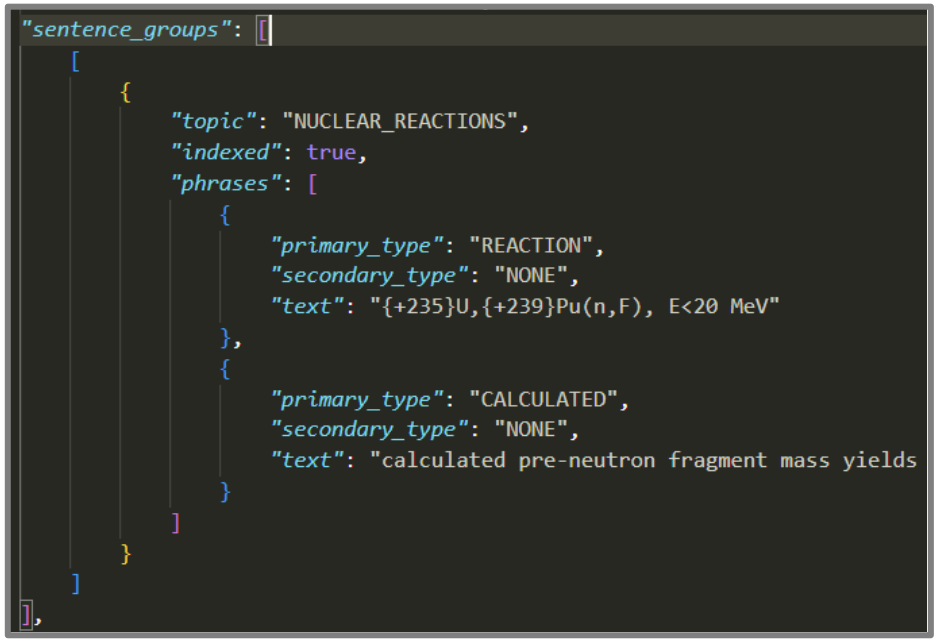

```
{
    "key_number": "2023WIZZ",
    "publication_year": 2023,
    "entry_type": "A",
    "entry_date": "2023-06-25",
    "coden": "CONF Sacramento(Nucl Data for Sci and Technol) Proc,P12005,Wiarda",
    "reference": "Proc.15th Intern.Conf.Nuclear Data for Science and Technology (ND2022),
    "authors": [···
    ],
    "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

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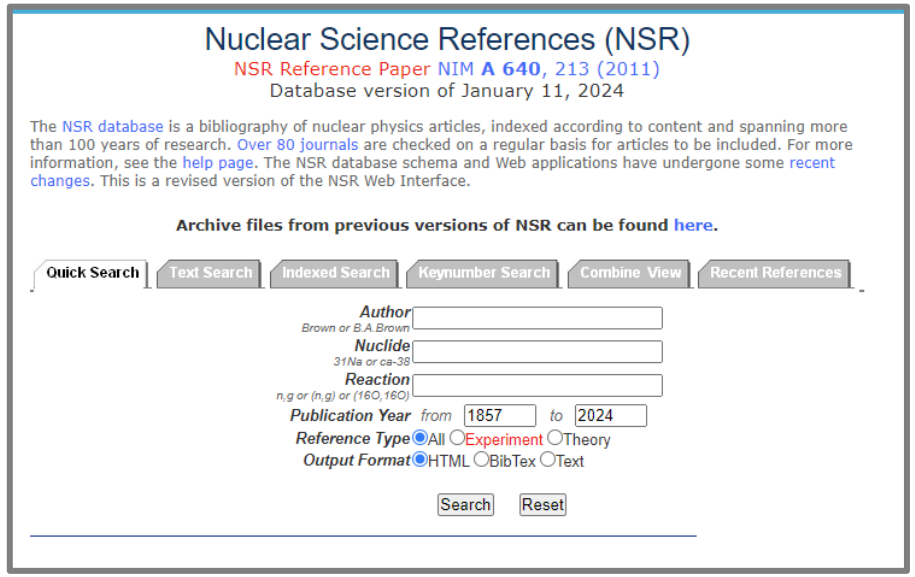
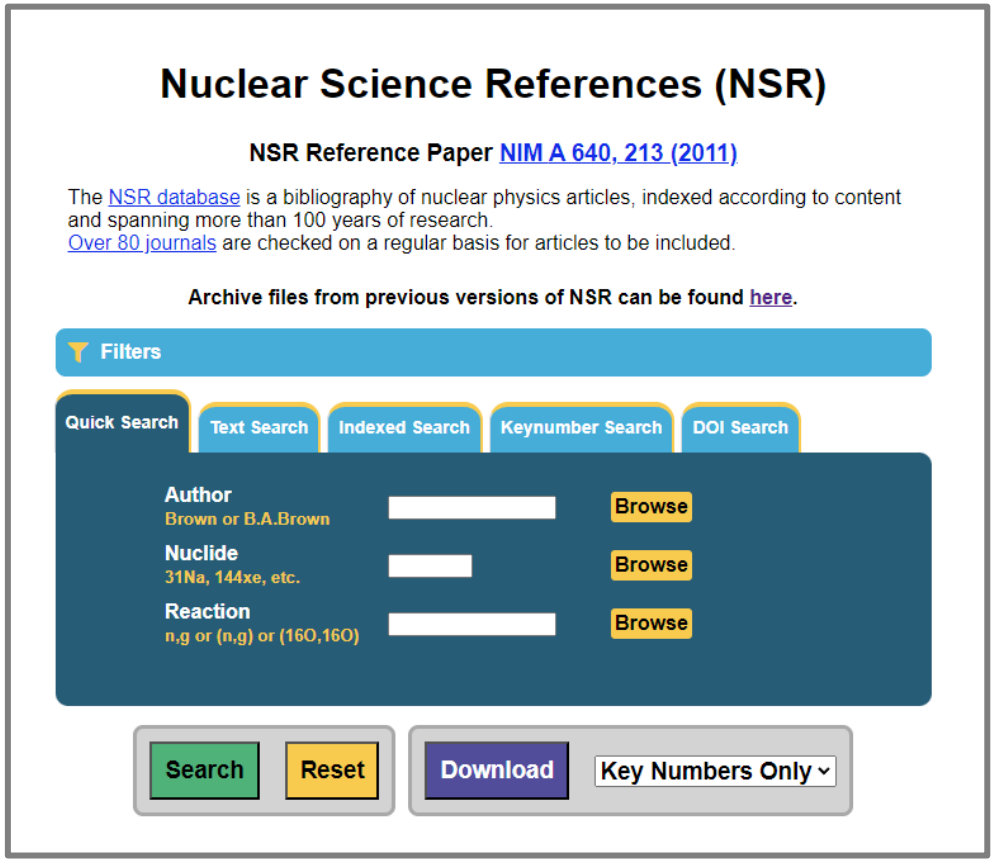
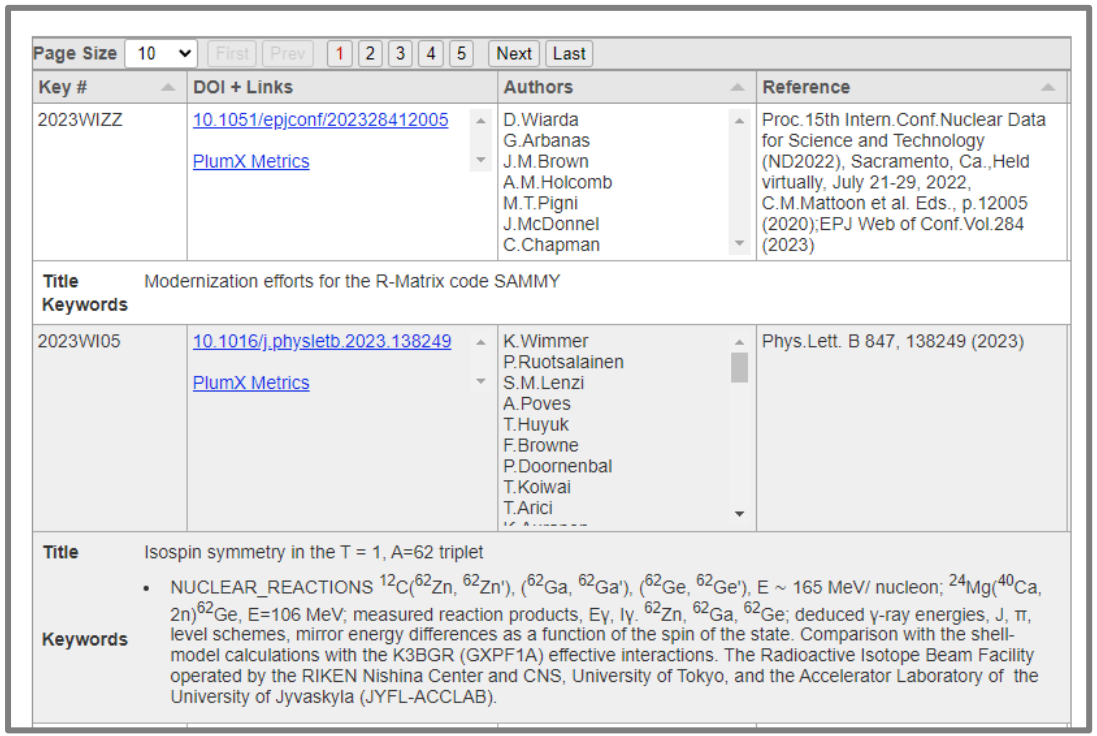
# New Interface: nsr-dev



# tabulator.js

Results now shown in a paginated table for convenience



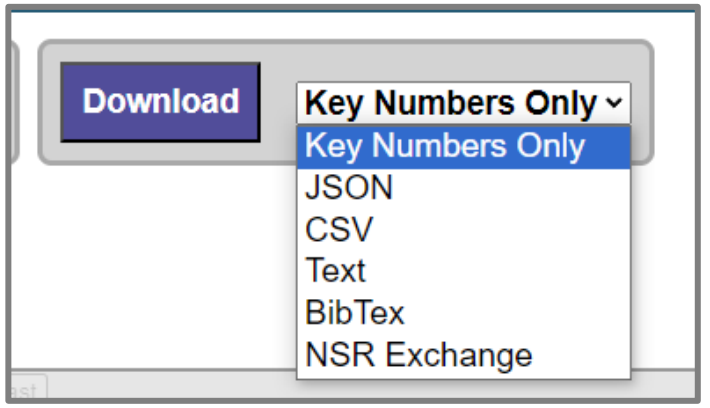
# Download Formats

Search results can be saved as:

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

Printing/formatting handled by client-side JavaScript

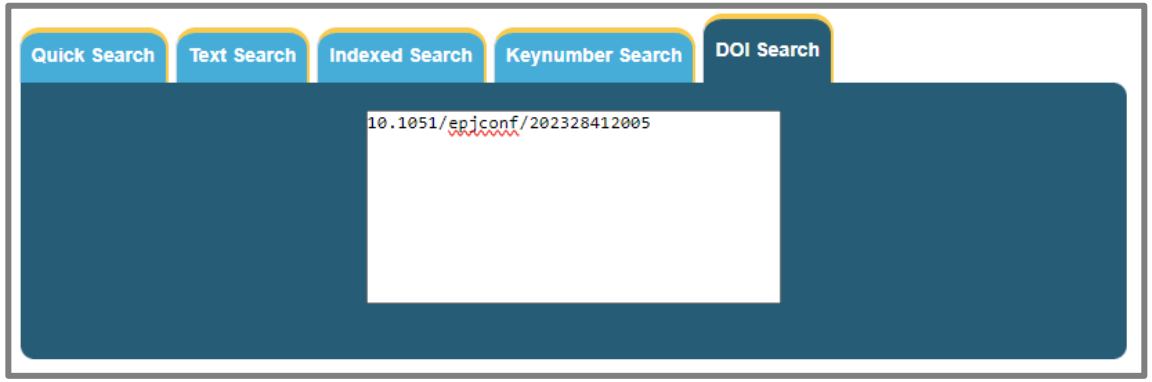

Right-click to for single-entry downloads

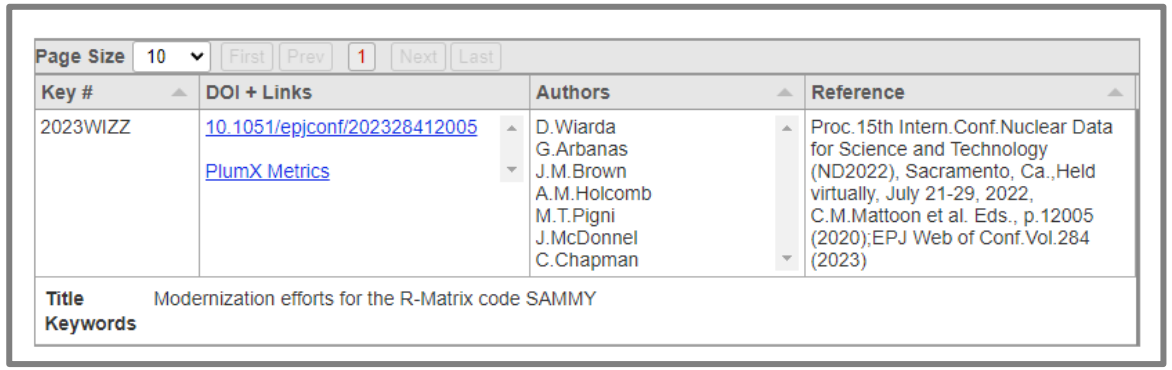



Use button to download entire results list

# Search by DOI

**nsr-dev** now able to find entries using DOI strings



# Feedback Welcome

New interface is currently live at:

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

Questions? Suggestions? Requests?

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