

Abstract

Radiopurity.org is a community tool used by several experiments. Originally, it comes from the AARM collaboration and recently it went through an upgrade via a common effort within the LRT community.

Designing and building a detector radioactively 'clean' requires considerable effort.

A good record keeping is essential and sharing results is invaluable.

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Radiopurity Version 2.0

Open source code:

<https://github.com/pnnl/Radiopurity-database-assistant>

MongoDB Database and python-based toolkit

Up-to-date standardized codebase

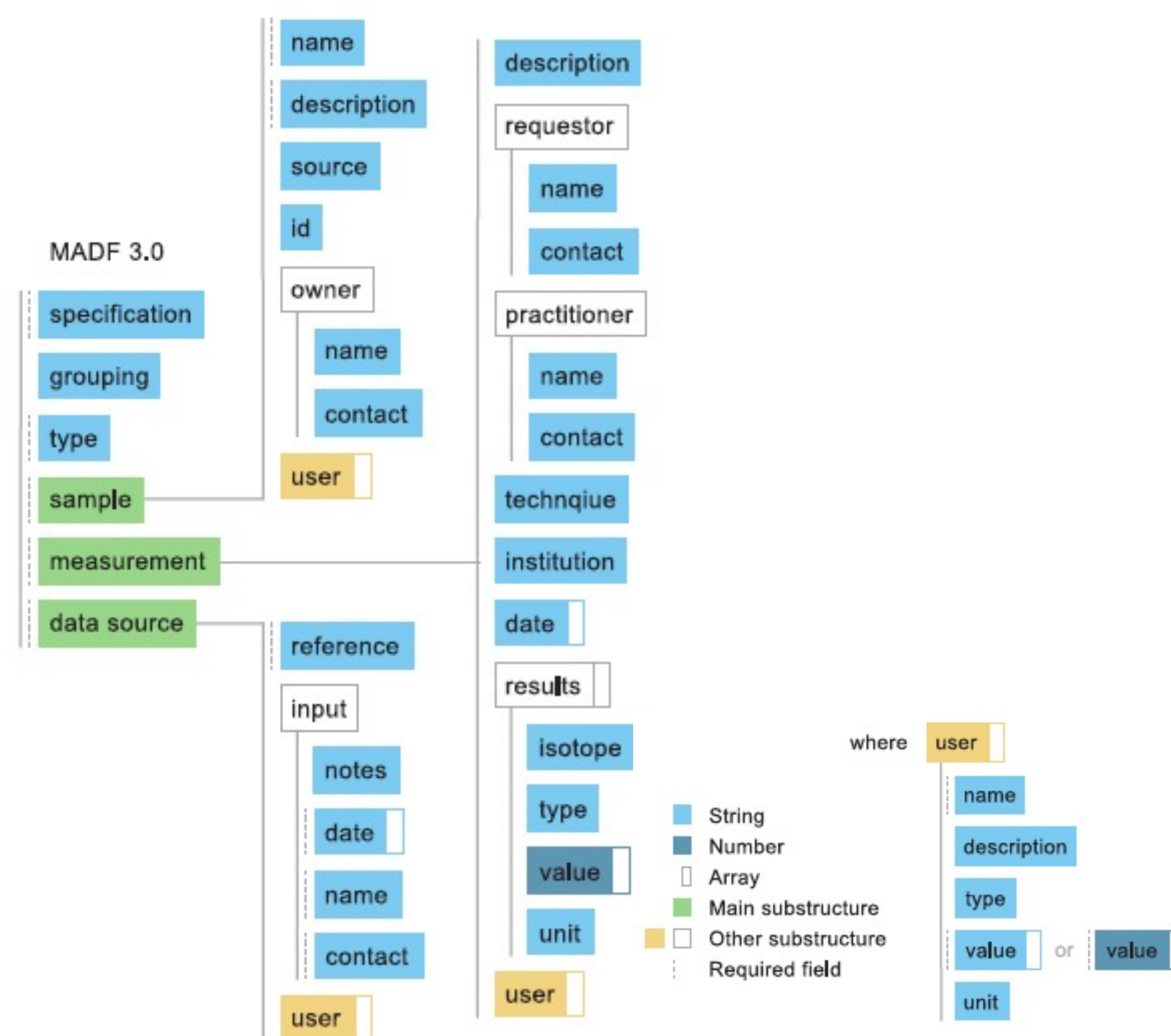
Improved structure, ability to modify

'old versions' collection in database to track changes to entries (linked by document ID)

Database Framework

Material Assay Data Format (MADF)

Standardized, but flexible, json format



Database Assistant **NEW!**

Open source format for storing, displaying and manipulating MADFs.

Public instance maintained by SNOLAB

<https://www.radiopurity.org/>

Can share results easily with community when ready. **UPGRADED!**

Guided Data Entry

Searching capabilities

Search all
Summary information changes
Synonyms - **New**
Published flag - **New**

Advanced Search

Unit conversion - **New**
New data added (Xenon1T, LRT 2010)

Data Entry - **New**

Data Update - **New**



The screenshot shows the Radiopurity.org website interface. At the top, there are logos for Pacific Northwest National Laboratory, radiopurity.org, and SNOLAB. Below the logos is a navigation bar with links for 'about', 'search', 'advanced search', 'insert', 'update', and 'logout'. The main content area features a 'Query Assistant' section with a search input field and a 'search' button. To the right, there is a table of conversion factors:

1 Bq U-238/kg	= 81 ppb U	(80 x 10 ⁶ gU/g)
1 Bq Th-232/kg	= 246 ppb Th	(246 x 10 ⁶ gTh/g)
1 Bq K-40/kg	= 32300 ppb K	(32300 x 10 ⁶ gK/g)
1 Bq U-235/kg	= 1.76 ppm U	(1.76 x 10 ⁶ gU/g)

Below the table, there is a search input field with the text 'Search for records containing the term...' and a 'search' button. There is also a checkbox for 'include synonyms' and a link to 'advanced search'.

Contact Us

Let us know if you are interested to use the database in your experiment.

Contact us with new data to share or any other feedback!

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