

PIDs For Instruments.

Motivation, options and practice

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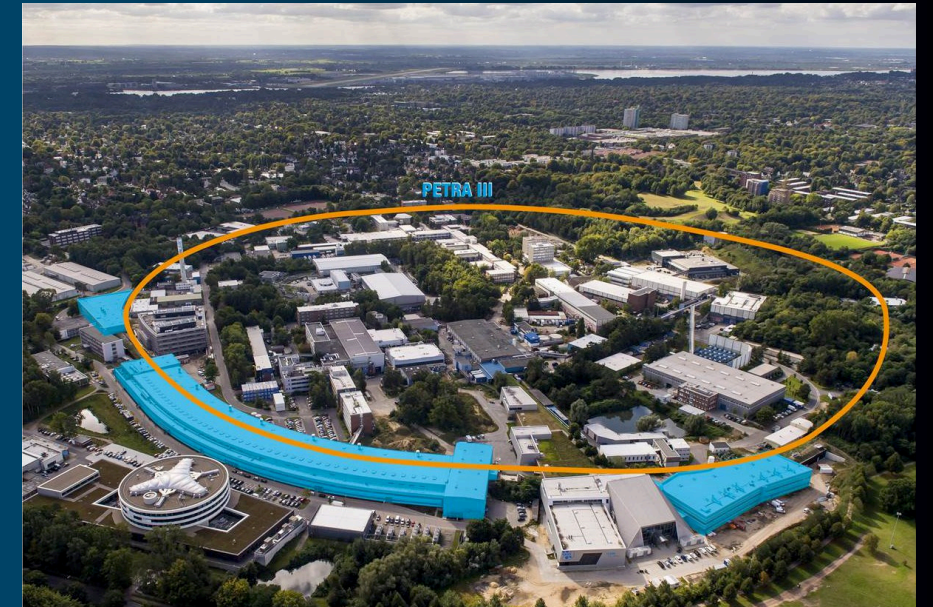
Sep. 16th 2025

HELMHOLTZ



Why Persistent **ID**entifiers (PIDs) for Instruments?

- Make beamlines and major instruments directly citable
- Support FAIR principles
- Improve attribution and visibility
- Reduce ambiguity between facility, beamline, detector, configuration
- Enable machine-readable/actionable links to data/software/projects



PID landscape for instruments

1

DOI

... via CrossRef

Global, interoperable, widely indexed.

... via DataCite

Global, interoperable, widely indexed
+ Supports rich relations (IsPartOf, HasPart, IsNewVersionOf, IsDescribedBy)

2

PIDINST profile

Community schema mapped to DataCite

See e.g. R. Krah, „Metadata Schema for the Persistent Identification of Instruments“. Zenodo, März 30, 2022. doi: 10.15497/RDA00070.

3

Handles/URN

feasible but less visible

Other related PIDs

ROR (organisation)
ORCID (contributors)
Grant IDs

Granularity: what gets a PID?

- Facility (e.g. PETRA III) optional
- Beamline (e.g. P08) recommended
- Major subsystems (detector, endstation) if independently referenced
- Configurations when crucial for reproducibility
- Avoid over-fragmentation; use HasPart/IsPartOf



Instrument DOI vs Article DOI

Aspect	Instrument DOI (DataCite) E.g. PubDB Dataset	Article DOI (CrossRef) E.g. J. Appl. Cryst.	Article DOI (CrossRef) JLSRF
Purpose	Identify instrument/beamline instance	Describe facility with peer review	Describe facility with low barrier
Workflow	Fits data/infra citations	Supported in references	Supported in references
Granularity	Supports version links	Static snapshot	Static snapshot, but easily updated
Machine-actionable	Strong	Moderate	Moderate
Discoverability	Excellent in repositories	Excellent in literature indexes	Moderate in literature indexes (No WoS/Scopus, but OpenAlex)
Best use	Methods, acknowledgements	Canonical description, references	Canonical description, references



PubDB Dataset vs. JLSRF

PubDB Dataset

- ✓ Supports Unified Datasheet (Add as json, xml if possible)
- ✓ Supports relations, versioning and links to other data
 - IsNewVersionOf/IsPreviousVersionOf
 - IsPartOf, IsParentOf, ...
- ✓ Landing Page
 - No Instrument Datatype

JLSRF (<https://jlsrf.org/>)

- ✓ Scholarly led publication
- ✓ Article/Website format
- ✓ Articles with corporate author's only, but contact given
- ✓ Versioning supported
- ✓ Local (formal) reviewers (e.g. Libraries)

Best Practices

1

Handling upgrades and rebuilds

Minor changes:

Update metadata, keep same DOI

Major changes

Mint new DOI; Link with other DOIs

Maintain landing page !

2

Which DOI to cite?

Instrument DOI

For exact beamline/setup used

Article DOI

For descriptive context

Cite both !

3

Cite properly

See [Acknowledgements](#) page at
Photon Science -> Users area ->
User guide -> Publications

Vielen Dank

Kontakt

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