DOI status in IVOA

« Using DOI to cite data in articles »

DCP & CSP:
Gilles Landais
Gus Muench
Raffele d'Abrusco

DOI in IVOA

DOI, an original (FAIR) identifier

- **Sustainable** identifier associated with a **URL** (landing page)
- Dedicated for **citation**
- An identifier with **meta-data** (which allows to extract the Bibtex)

  ex : curl -LH "Accept: application/x-bibtex" https://doi.org/10.5270/esa-1ugzkg7

- Not managed by IVOA:
  DOI are Generated by institutes, data-centers via DOI recording organization
  (ex : Crossref, DataCite)

  .. and :

- DOI allows to build an interconnected network of resources
- Used for many resources type: articles, datasets, services, softwares, …
- Interdisciplinary identifier : standard adopted by all sciences

Comparison with VO registries

☐

ViZieR

IVOA registry

authors	
Pub.	
keywords	
Resource links	
Resource links	
Rights	
? Interoperability desc.	

DOI metadata

doi

authors	
Pub.	
keywords	
Resource links	
Rights	
Pub.	

DOI status in IVOA framework

Include DOI in Registry
VOResource 1.2 M.Demleitner et al.

→ scheme to specify DOI as alternated identifier

```
<identifier>ivo://CDS.VizieR/I/355</identifier>
<altIdentifier>doi:10.26093/cds/vizier.1355</altIdentifier>
```

```
<relationship>
    <relationshipType>isVariantFormOf</relationshipType>
    <relatedResource>doi: 10.5270/esa-qa4lep3</relatedResource>
</relationship>
```

VOResource: an XML Encoding Schema for Resource Metadata

Version 1.2
IVOA Working Draft 2023-01-05

Working Group
Registry

Data Origin in VO result
(see presentation Wednesday 10th may)

→ Allow citable identifier (DOI) in VOTable output

```
<INFO ID="publication_id" value="doi:10.26093/cds/vizier.51610036"/>
```

Data Origin in the VO

Version 1.0

IVOA Note 2022-10-30
Working Group
DCP

DOI status in IVOA

Working group (DCP, A.Schaaff et al., conf IVOA 2018)

https://wiki.ivoa.net/internal/IVOA/IvoaDCP/DOI-reports-and-feedbacks.pdf

Andre Schaaff, Tim Jenness, Raffaele D'Abrusco, Gilles Landais, August Muench, Anne Raugh, Arnold Rots, David Schade, Chenzhou Cui, Sarah Weissman

Report content

- DOI structure

- State of the art : DOI usage in astronomy

  Examples of Data center implementation:

  - Interconnected resources in different granularity (Chandra)
  - DOI reservation before publication (Chinese VO)
  - Landing pages example
  - etc.

- Meta-data proposal and good practices

Report on the DOI session held at the IVOA conference 2018

Working Group
    DCP
Author(s)
    Andre Schaaff, Tim Jenness, Raffaele D'Abrusco, Gilles Landais, August Muench, Anne Raugh, Arnold Rots, David Schade, Chenzhou Cui, Sarah Weissman
Editor(s)
    Andre Schaaff

Abstract

The IVOA Data Curation and Preservation Interest Group (DCP) aims at sharing best practices and engaging IVOA member projects in the long-term curation and preservation of astronomical data. A DOI (Digital Object Identifier) is a permanent identifier including metadata. DOI metadata are integrated in the FAIR perspective allowing their indexation and resulting in a PID (Persistent Identifier) network. The Metadata schema used by DOIs includes the ability to link resources that have a persistent identifier. These links establish dependency relationships between resources of different nature and granularity.
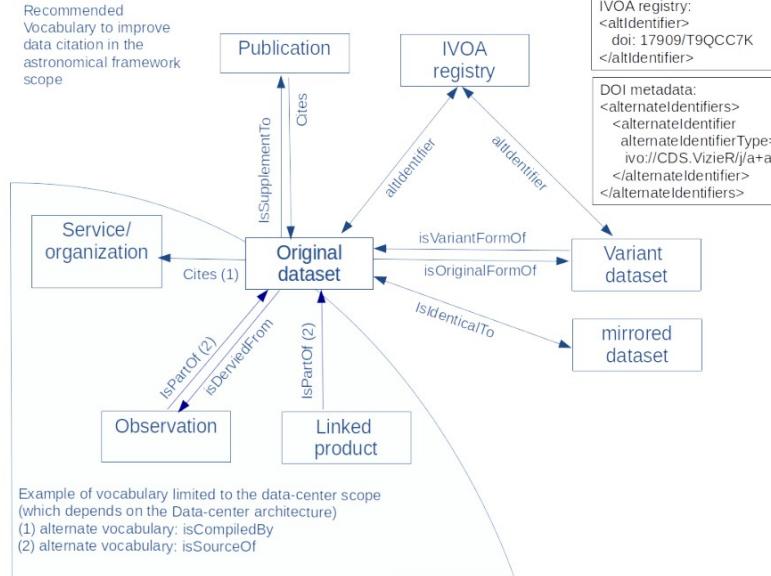
DOI in the Open Science

Challenges

- Improve data & service citation

- Make the bridge between resources available in the registry and Open Sciences (interdisciplinary) platforms

- Build an interconnected network of "citable" resources
      eg: link data with articles

- Provide a high level of meta-data quality that can be exploited to cite data

- Check metadata relevance for astronomical data in DataCite schema

Meta-data high quality level

- Meta-data quality in accordance with editors requirements (citation policies)

- Maintain DOI collection with meta-data that can evolve (ex: URL, keywords)
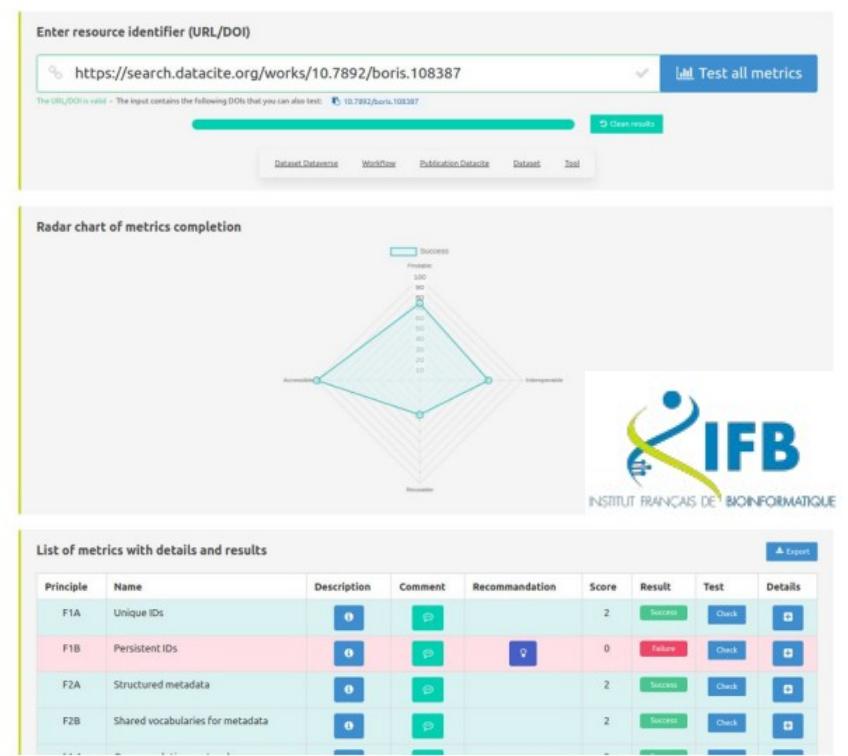
The FAIR-Checker tool
(atelier technique EOSC-France,
 C. Blanchet, CNRS, IFB)

https://fair-checker.france-bioinformatique.fr/

Make the bridge with Open sciences
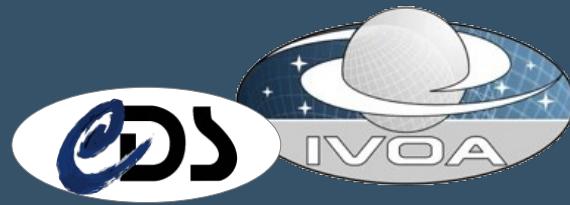
Proliferation of catalogues, platform, search engines

- IVOA Registry Harvesting by B2Find
- EOSC search engine developments (https://explore.eosc-portal.eu/search/find)
- etc.

→ Risk of non-indexation for resources without DOIs

→ Risk of multiplying the indexing of a resource with metadata of different quality levels

Make the bridge with Open Sciences

Example : VizieR record indexed in the EOSC service

- Powerful Algorithm based on OpenAire which includes a merge capability
  - Several sources of harvesting : DataCite, B2Find, HAL, etc.

3 mixed sessions: in persons and in remote

Wednesday May 10 @09:00 (Registry/DCP session) Plenary Room	
Speaker	**Title**
S.Derriere (CDS)	Description of HiPS surveys in the IVOA registry
G.Landais (CDS)	Data Origin in the VO
M.Demleitner (GAVO)	DOIs for everyone in the VO: VOiDOI
Harry Enke (IAP)	Provining metdata in DataCite and in IVOA
Yihan Tao (NAD	NADC implementation of DOI
R.D'Abrusco (CfA)	A Chandra-centric approach to DOIs
C.Arviset (ESA)	ESA Data Discovery Portal, link to ESA datasets DOIs and to Google Dataset Search.

Wednesday May 10 @14:00 (DCP session) Plenary Room	
Speaker	**Title**
G.Landais (CDS)	DOI status in IVOA
Gus Muench (AAS)	
S.Peroni (Bologna university)	DOI (and Beyond) for Publications and Other Citable Research Outcomes
A.Accomazzi (ADS)	
B.Cecconi (Obs Paris)	Data Management and DOI implementation and lessons' learnt
M.Pearson (Nasa)	SMD DOI best Practices
R.d'Abrusco (CfA)	Conclusion

DOI Discussion (EDU/DCP session) Thursday, May 11 @16:00 (room 216)	
Speaker	**Title**
A.C.Raugh	Introduction
All	DOI discussion

Mailing list DCP: http://mail.ivoa.net/mailman/listinfo/datacp

Chair: gilles.landais@unistra.fr
Vice-chair: August Muench
Raffaele d'Abrusco : CSP

Twiki: https://wiki.ivoa.net/twiki/bin/view/IVOA/IvoaDCP
Slack channel: https://ivoa.slack.com/ #mtg-bologna-2023