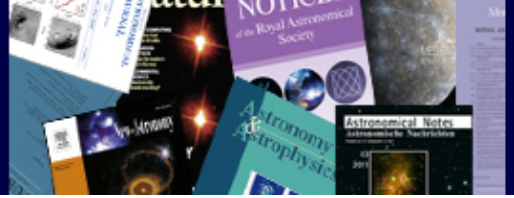
European Southern Observatory



ESO Telescope Bibliography

ESO **telbib**:

Learning from **experience**, preparing for the **future**

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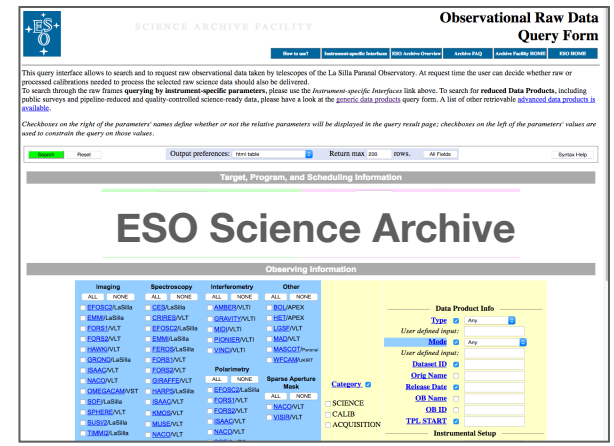
ESO Library
library@eso.org

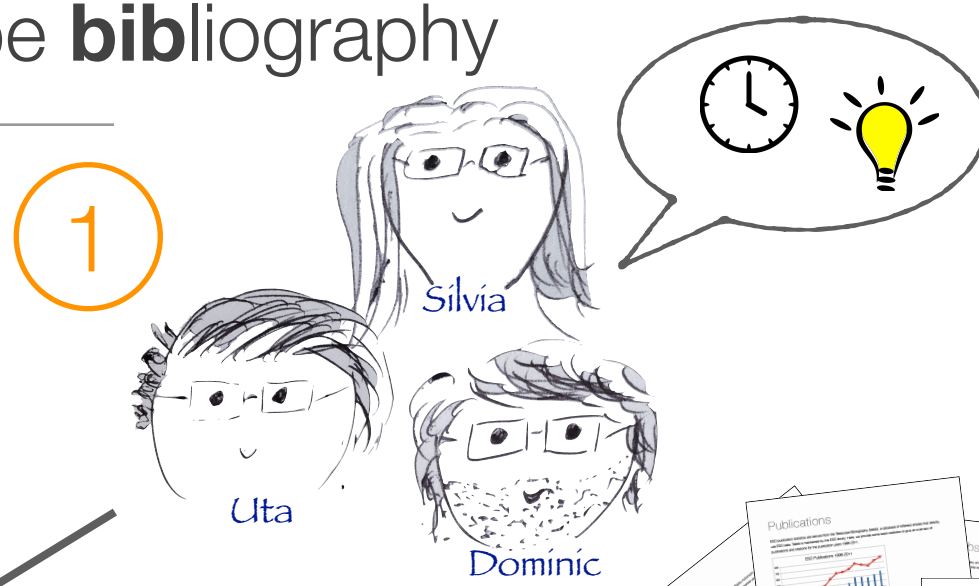
Data lifecycle in Astronomy

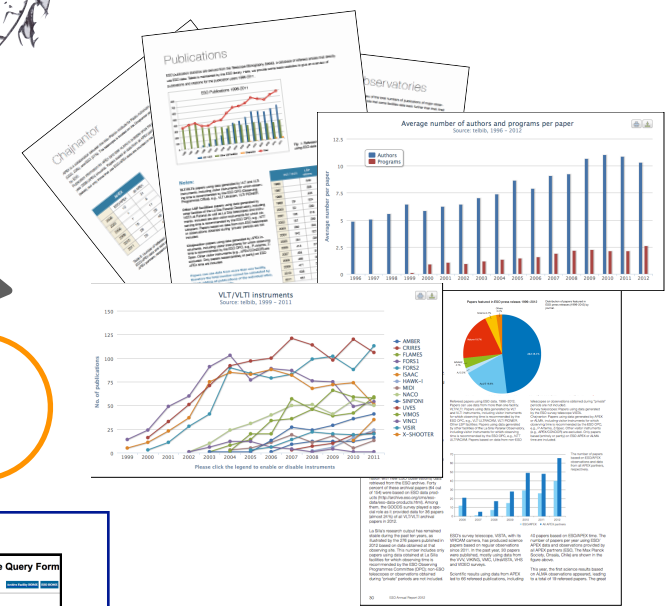


ESO telescope bibliography

telbib:

- **unique place** of links between ESO data papers and the observations in the Science Archive
- **built and curated** by ESO Librarians
- **interlinking** resources
- **tool to evaluate** ESO's performance and impact through bibliometrics





2

Overview

1. **Why** do we need **”curated”** telescope bibliographies?

2. **Lessons learned** from **20+ years of telbib**

   (“The **7 C**s”)

1 **Why** do we need **”curated”** telescope bibliographies?

Contributions and roles related to content

author

publisher

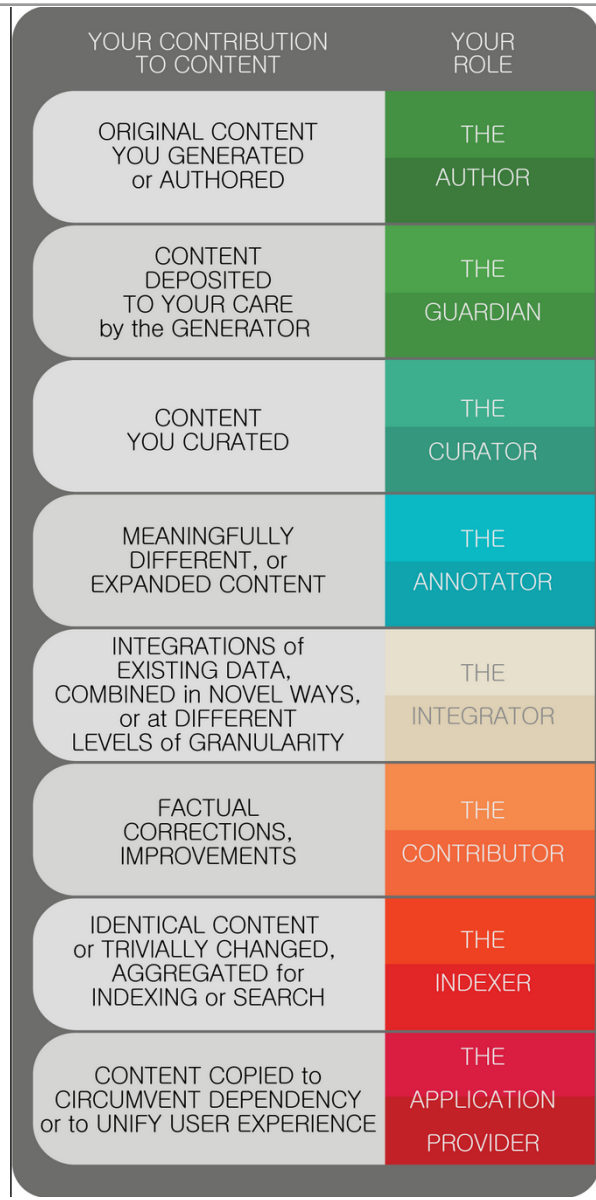
libraries, repositories

telbib

telbib

telbib

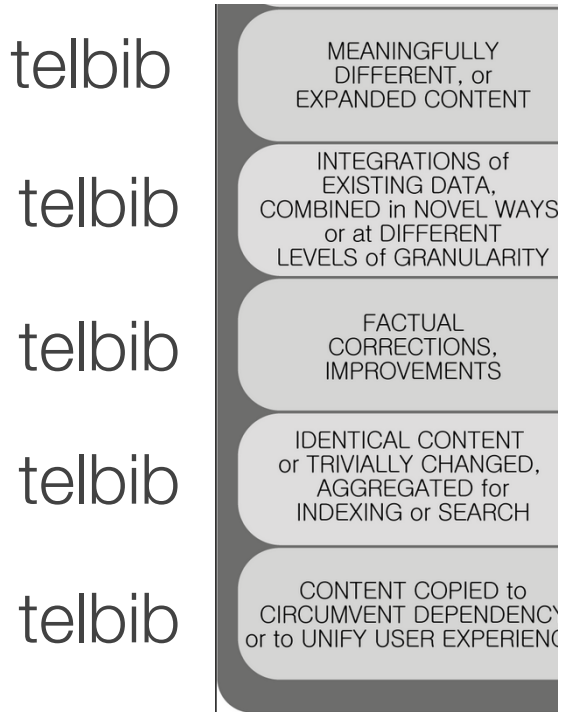
telbib

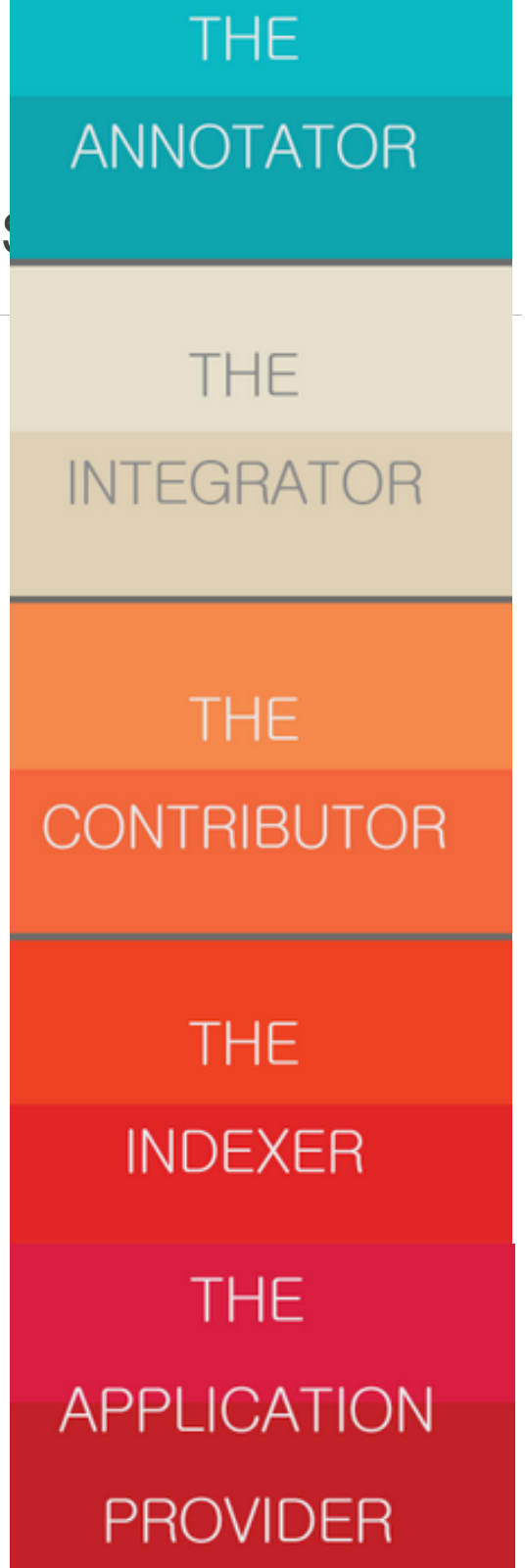


Credit:
McMurry, Julie et al. (2017) Identifiers for the 21st century: How to design, provision, and reuse persistent identifiers to maximize utility and impact of life science data. PLoS Biol 15(6): e2001414. https://doi.org/10.1371/journal.pbio.2001414

Contributions

5 crucial roles
fulfilled by
bibliography curators





assign tags to optimize retrieval
(surveys, archival data, etc.)

link papers & data
(& other info resources)

correct / add wrong or missing identifiers

make content **searchable**
(multiple parameters)

provide retrieval platform
(telbib.eso.org)

1 **Why** do we need **”curated”** telescope bibliographies?

2 **Lessons learned** from **20+ years of telbib**

(“The **7 C**s”)

1. Connectivity

- **Keywords:** interoperability, access, data exchange
- **ESO telbib:**
  - Sybase database chosen for **easy data exchange** with ESO Science Archive
  - various identifiers to link in and reach out
- **Identifiers:**
  - ESO programIDs (Archive, Observing Schedule)
  - bibcode (ADS, ESO press releases)
  - author IDs (ORCID)
  - DOI (Altmetric)
  - API parameters (access to and from telbib)

Detailed Information

Author(s)	Pian, E.; D'Avanzo, P.; Benetti, S.; Branchesi, M.; Brocato, E.; Campana, S.; Cappell… Elia, V.; Fynbo, J. P. U.; Getman, F.; Ghirlanda, G.; Ghisellini… Hjorth, J.; Kouveliotou, C.; Levan, A.; Limatola, L.; Male… show all authors
Title	**Spectroscopic identification of r-process nucleosynthesis in a double neutron-star merger**
Keywords	Astrophysics - High Energy Astrophysical Phenomena
Abstract	show abstract
Publication details	Nature, 2017, vol. 551, p. 67
BibCode	2017Natur.551...67P
Fulltext (via ADS)	ADS
DOI	10.1038/nature24298
Citations (from ADS)	58 Altmetric 53
Further information	http://www.eso.org/public/news/eso1733/ (Press Release)

Instruments and Observing Programmes used:

FORS2 (VLT / Paranal)
- 099.D-0382 (access to raw data)
- 099.D-0622 (access to raw data)

OMEGACAM (VST / Paranal)
- 099.D-0191 (access to raw data)

XSHOOTER (VLT / Paranal)
- 099.D-0382 (access to raw data)
- 099.D-0622 (access to raw data)

Hosted facilities	REM
Other tags	PI data

ORCID

Connecting Research and Researchers

astrophysics data system

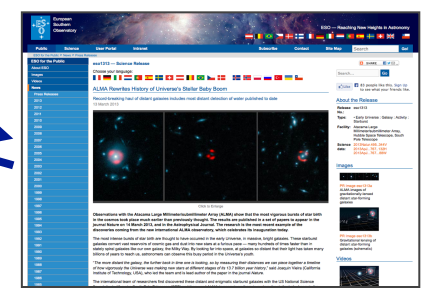
fulltext

article DOI

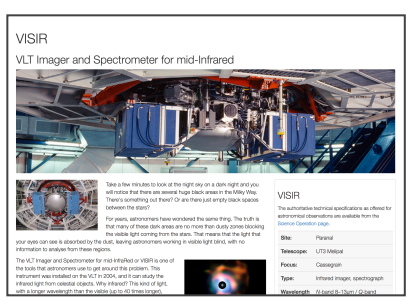
altmetric.com

Altmetric

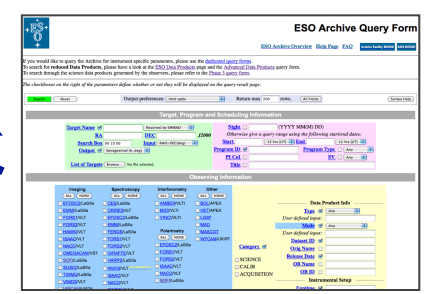
ESO PR



instrument info



data

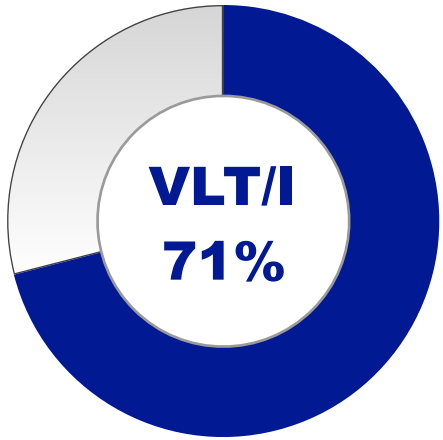


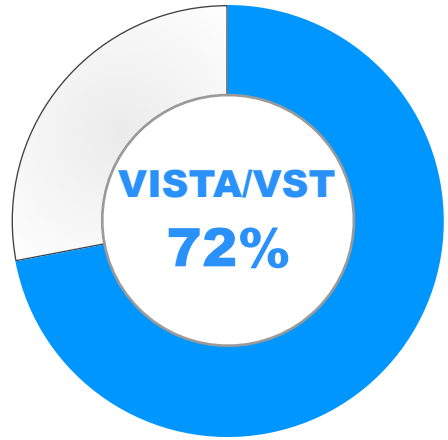
2. **Curation**

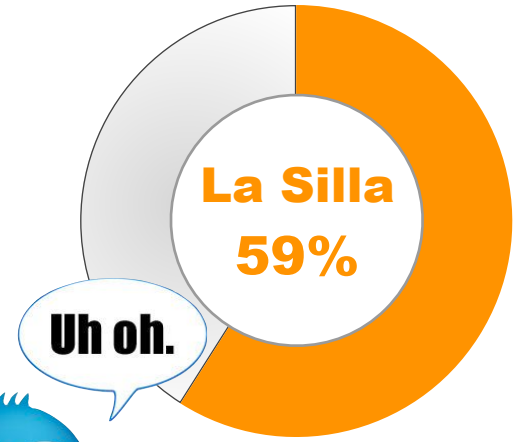
- **Keywords:** text mining, human inspection, automated retrieval (*reliable*??)
- **ESO telbib:**
  - FUSE full text search tool extremely helpful, but human curation necessary
- **Aim:**
  - Ensure **correct and complete** (within ~5%) set of data papers in telbib

2. **Curation**

Fraction of data papers with **correct** and **complete** identifiers (2012-2017)

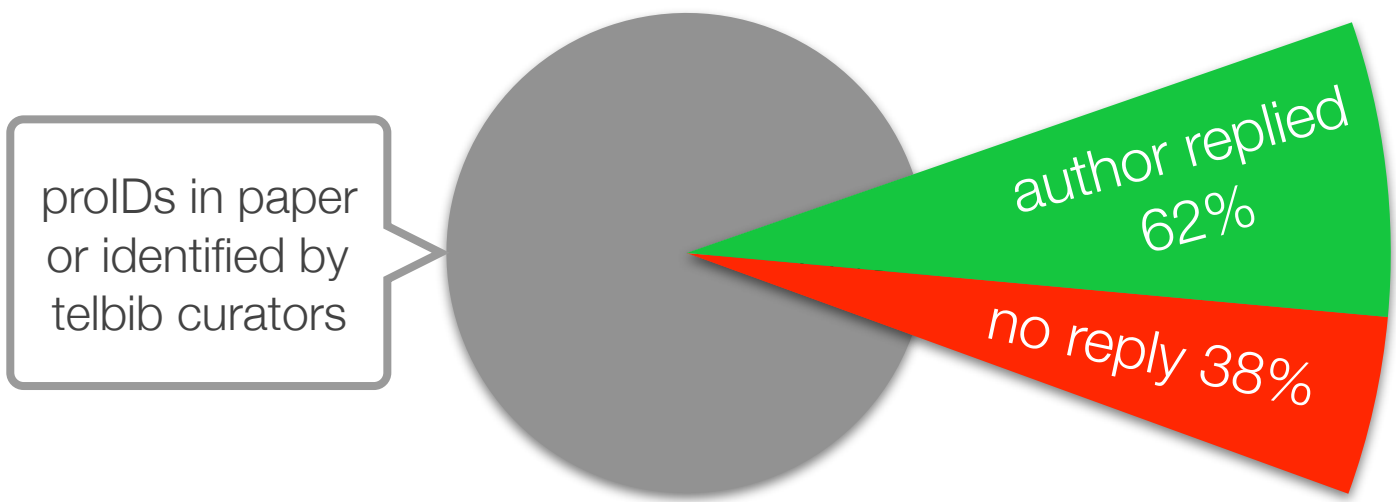






3. **Community** involvement

- **Keywords:** author awareness, dissemination of data citation policy
- **ESO telbib:**
  - Data citation policy (when and how to acknowledge data)
  - disseminated through Instrument Scientists, ESO Science Archive interface, “power users”
  - **communication with authors**
- **Example:** telbib records added Sep-Dec 2017



Communication with authors:

414 records added to telbib

proIDs identified: 89%
45 authors contacted: **11%**

28 authors replied: **62%**
17 authors did not reply: **38%**

4. Collaboration

- **Keywords:** teamwork, exchange of best practices, networking
- **ESO telbib:**
  - joint efforts to establish new features
  - **define policies and guidelines** with other bibliography curators (HST, Gemini, Spitzer)
- **Example:**
  - ALMA Bibliography

*"The ALMA bibliography is **jointly maintained** by the librarians at ESO and NRAO as well as NAOJ."*

5. **Conjecture** (Anticipation)

- **Keywords:** parameters, metrics, publishing trends
- **ESO telbib:**
  - from list of articles to sophisticated system
  - new features implemented **proactively**
- **Use cases:**
  - **Ad-hoc statistics:** provided on demand or user
  - **Regular reports:** *Basic ESO Publication Statisti*
  - **Essential statistics** provided for investigations, e.g.,
    - Sterzik+ 2016: ***The impact of science operations on s*** …4E.9910E..03S
    - Leibundgut+ 2017: ***Scientific Return from VLT inst…ments***, 2017Msngr.169...11L
    - Patat+ 2017: ***The ESO Survey of Non-Publishing Programmes***, 2017Msngr.170…51P
    - Grothkopf+ 2017: ***On the Availability of ESO Data Papers on arXiv/astro-ph***, 2017Msngr.170…58G

telbib completeness: > 95%

6. **Courage**

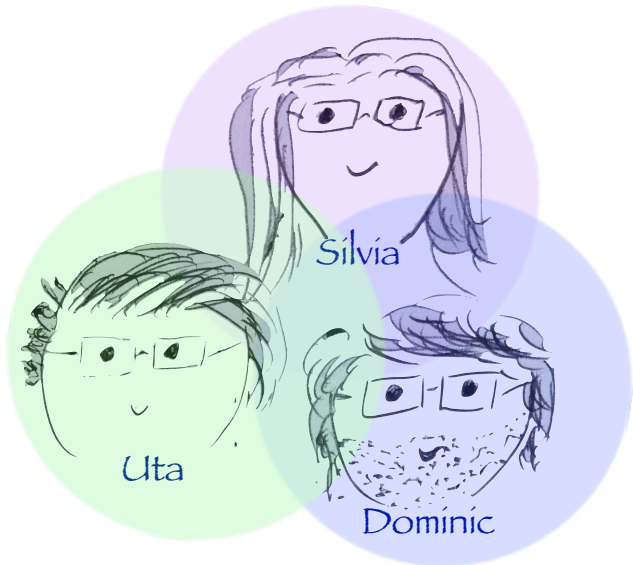
- **Keywords:** feedback, suggestions, user requests

- **ESO telbib, e.g.:**
  - telbib—Science Archive connection: what do we want to measure?
  - public interface: how much detail?

- **Bottom line:**
  - increasing number of papers & parameters (with same number of staff)
  - find the courage to **decline requests**

7. **Count on** your team

- **Keywords:** professional roles, knowledge, collaboration, teamwork
- **ESO telbib:**



- **Bottom line:**
  - different roles / **complementary knowledge & skills** among team
  - some redundancy necessary to avoid single point of failure

Take-away Points

1. telbib is curated
   - curation = “to take care of”
   - workflow ensures quality content
   - including, but not limited to linking programs to papers
2. Basis: “7 Cs”
   - Connectivity
   - Curation
   - Community involvement
   - Collaboration
   - Conjecture (Anticipation)
   - Courage
   - Count on your team

Skills:

- technical, programming
- experience, knowledge
- human factor, “soft skills”

3. Way forward:
   - **proactively implement** new features
   - react to **demand from stakeholders**
   - **select** only requests that are feasible