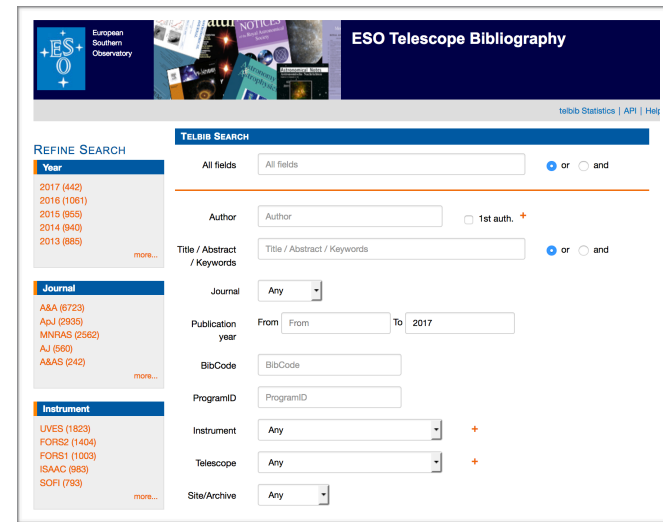
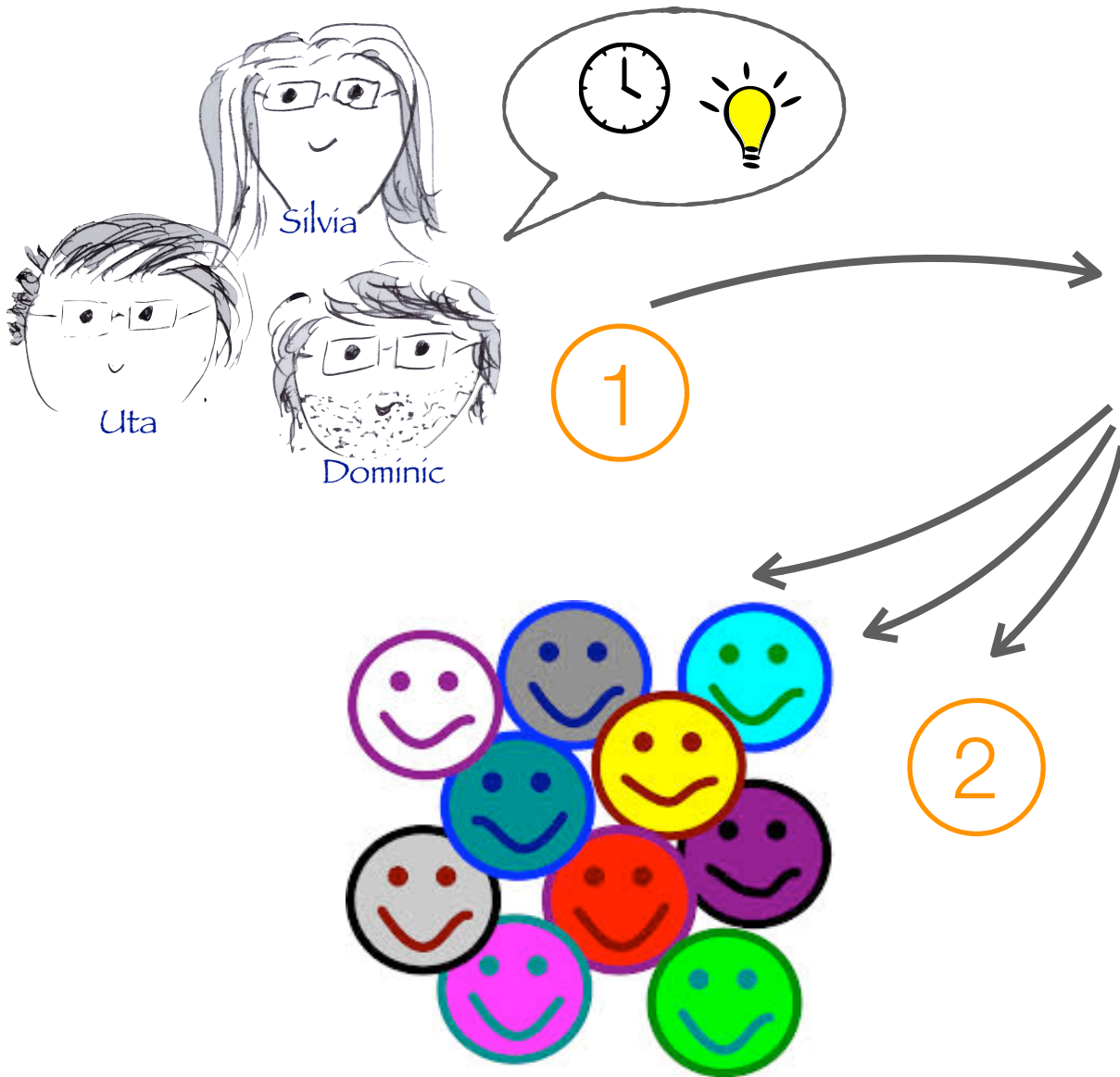


# Use Cases of the ESO telescope bibliography

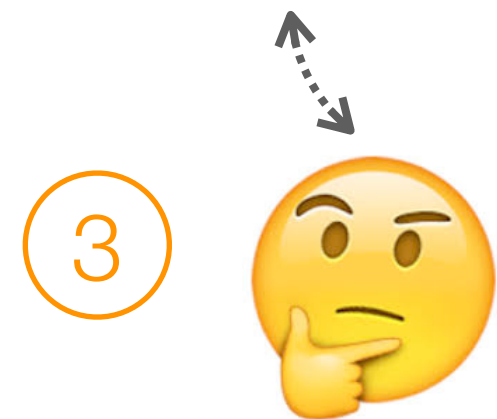
Uta Grothkopf, Silvia Meakins, Dominic Bordelon  
ESO Library  
[library@eso.org](mailto:library@eso.org)



# Use cases of the ESO telescope bibliography



telbib.eso.org





# ① Why do we need **curated** bibliographies?

## ESO TELBIB SELECTION CRITERIA:

Papers that

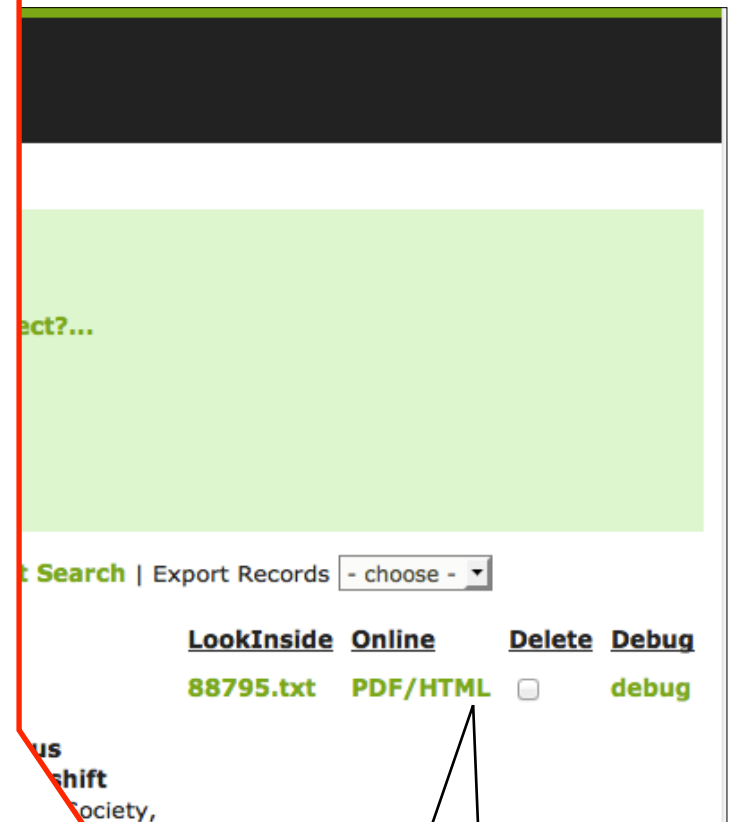
- ▶ partly or exclusively **use ESO data**  
(proprietary or archival)

—> **included**

Papers that

- ▶ **quote** results from literature
- ▶ mention **ongoing** projects
- ▶ suggest **future observations**
- ▶ describe **instrumentation / software**
- ▶ use data in **models** or **simulations** merely as examples
- ▶ use images only as **visual reference**

—> **excluded**



visual inspection

"00) spectrograph FORS1 and FORS2 on the VLT/Kuyen telescope. The spectra revealed some strong a"

" the velocity field for some LCGs using **GIRAFFE** at the VLT. However, because of the small appar" "hs for a handful of LCGs, measured with **ISAAC** at the VLT (Tresse et al. 2002), show a `double h" " observed 22 of these galaxies with the **FORS** /R600 and I600 spec- trograph at the European South"

"ion (R > 600) spectrograph **FORS 1** and **FORS 2** on the VLT/Kuyen telescope. The spectra revealed "



# Data links and metadata in telbib

## Edit Paper

The current record has been updated.

PaperID: 56403 BibCode:  [View ADS](#) | [View telbib](#)

Bibliographic info: ApJ, vol. 808, pp. 139- (8/2015)  
CitationCount: 87 | Reads: | PubDelay : (min) | (med) | (max) day(s)  
Also data used from:

Title:

Private Comment:

## Program IDs, telescopes/instruments, archive use, obs. info

### List of Programs (4)

ID	Mode	Part	Type	Instrument	SciVer	Survey	Archive	ProcLevel	Provenance	Del
<input type="text" value="179.A-2005"/>	<input type="text" value="sm"/>	<input type="text" value="-"/>	<input type="text" value="Large"/>	<input type="text" value="VIRCAM"/>	<input type="text" value="N"/>	<input type="text" value="UltraVISTA"/>	<input type="text" value="Y"/>	<input type="text" value="DataProducts"/>	<input type="text" value="external"/>	<input type="text" value="arc?"/>
<input type="text" value="294.A-5018"/>	<input type="text" value="sm"/>	<input type="text" value="-"/>	<input type="text" value="DDT"/>	<input type="text" value="XSHOOTER"/>	<input type="text" value="N"/>	<input type="text" value="-"/>	<input type="text" value="N"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="arc?"/>
<input type="text" value="294.A-5018"/>	<input type="text" value="sm"/>	<input type="text" value="-"/>	<input type="text" value="DDT"/>	<input type="text" value="FORS2"/>	<input type="text" value="N"/>	<input type="text" value="-"/>	<input type="text" value="N"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="arc?"/>
<input type="text" value="294.A-5039"/>	<input type="text" value="sm"/>	<input type="text" value="-"/>	<input type="text" value="DDT"/>	<input type="text" value="SINFONI"/>	<input type="text" value="N"/>	<input type="text" value="-"/>	<input type="text" value="N"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="arc?"/>
<input type="text"/>	<input type="text"/>	<input type="text" value="-"/>	<input type="text" value="Any"/>	<input type="text" value="-"/>	<input type="text" value="N"/>	<input type="text" value="-"/>	<input type="text" value="N"/>	<input type="text" value="-"/>	<input type="text" value="-"/>	<input type="text" value="+"/>

Additional tags: [Add/Edit](#)  
:Archive\_Plus\_New x  
:Staff+Instr x  
:PressRelease x

## Other tags (press releases etc.)

## Author names + affiliations

Author(s): ([Add/](#) [Edit/](#) [List/](#) [Delete](#))  
1.) Sobral, David; 2.) Matthee, Jorryt; 3.) Darvish, Behnam; 4.) [Schaerer, Daniel](#); 5.) Mobasher, Bahram; 6.) Röttgering, Huub J. A.; 7.) Santos, Sérgio; 8.) Hemmati, Shoubaneh;

First Author:

ESO Key :

- Staff
- Staff+Instr

24/8/07

- Refereed
- Made Public
- Shadow

ProgramID found

Best source:

Location:

Facilities:

## Data use acknowledged

[Edit TelBib Paper](#) OR [Check Paper](#) OR [Close Window](#)



# Data links and metadata in telbib

- approx. **70% correct proIDs** in VLT papers
- human **curation** needed

ID	obs mode	ALMA/APEX partner	obs type	instru-ments	science verification	survey names	archival info
179.A-2005			DDT	SINFONI	N		
294.A-5018							
294.A-5018							
294.A-5039							
2011.0.0063	sm	Europe	Standard	ALMA_Bands	N		

Large variety of parameters not available from anywhere else





## ② Questions we **can** answer



# Questions we can answer

1. Productivity & Impact



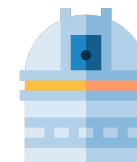
2. Demographics



3. Publishing trends



4. Instrumentation management







# Productivity & Impact

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How many **papers**?



How many **citations**?



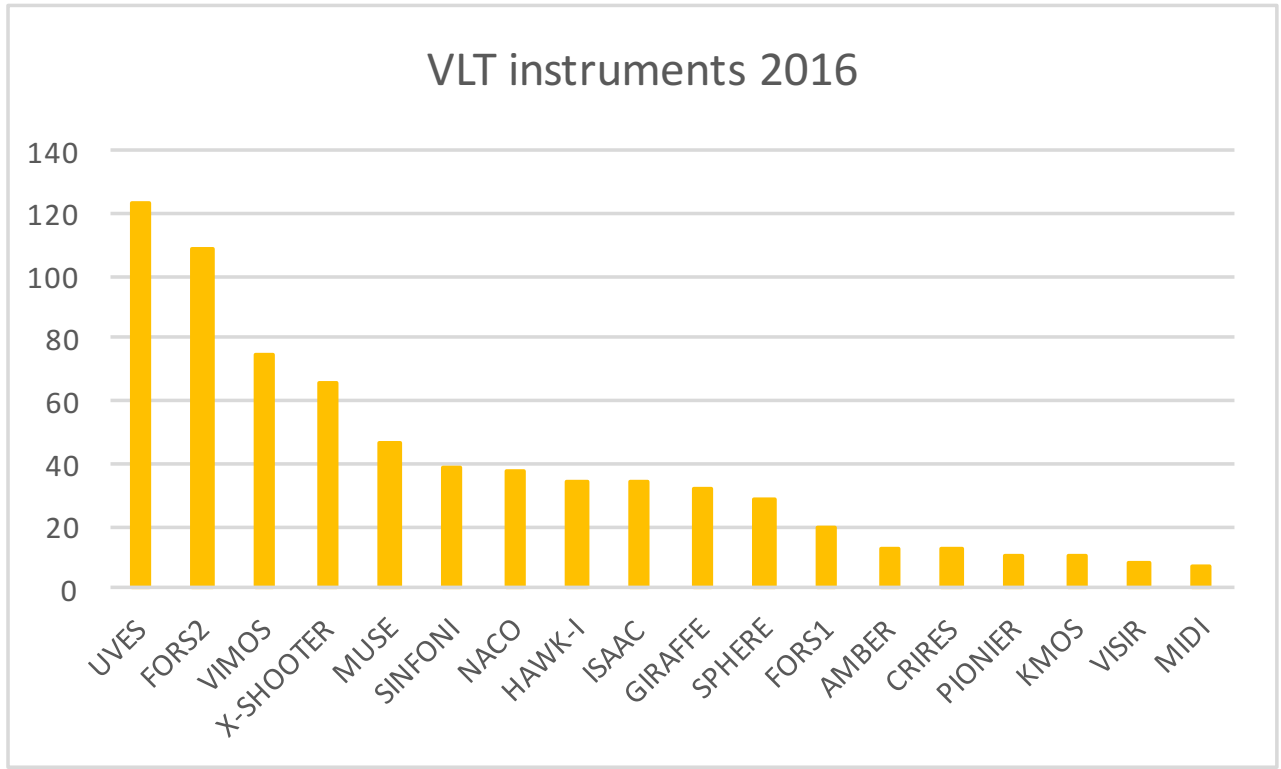
# Productivity & Impact

- ▶ Number of **papers** and **citations** per
  - ▶ observatory
  - ▶ instrument
  - ▶ telescope
  - ▶ program
  - ▶ observing mode
  - ▶ program type
  - ▶ author nationality
  - ▶ journal
  - ▶ etc.



# Productivity & Impact

- ▶ Number of **papers** and citations per
  - ▶ observatory
  - ▶ **instrument**
  - ▶ telescope
  - ▶ program
  - ▶ observing mode
  - ▶ program type
  - ▶ author nationality
  - ▶ journal
  - ▶ etc.

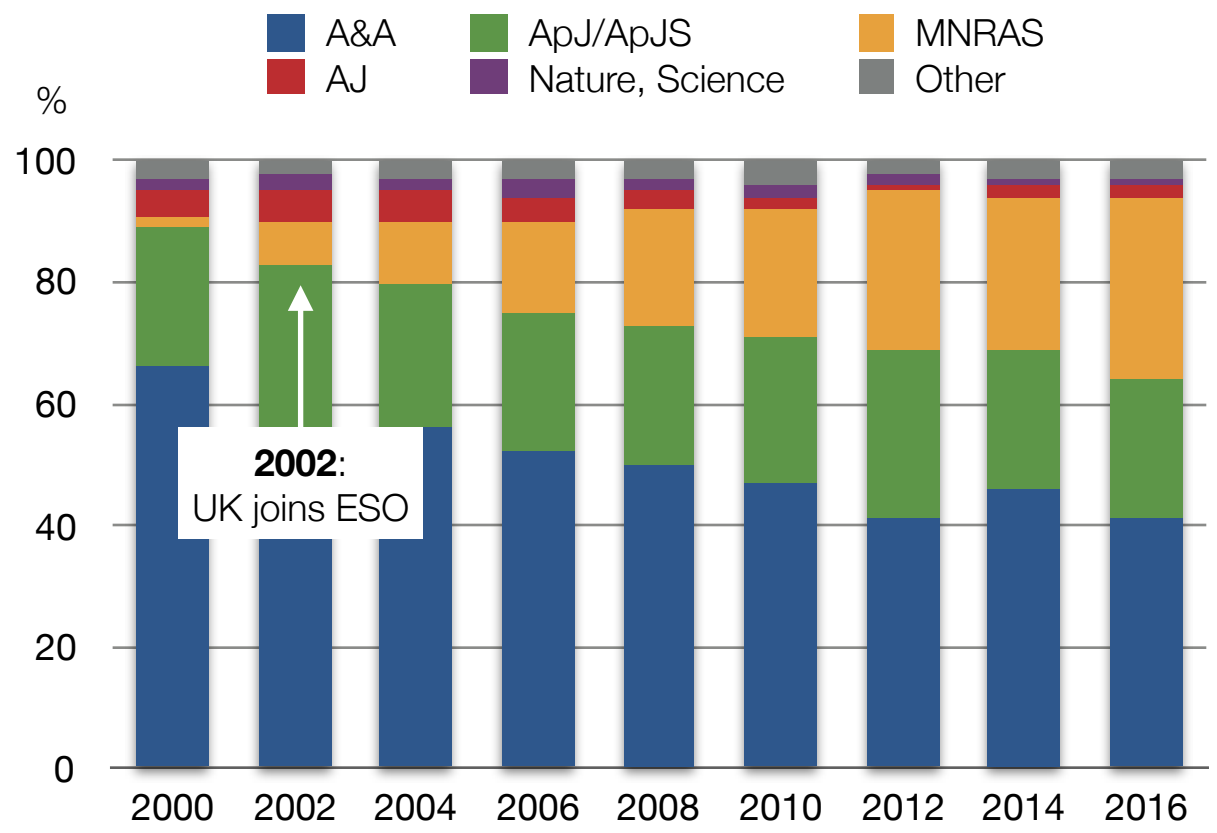




# Productivity & Impact

## ▶ Number of **papers** and citations per

- ▶ observatory
- ▶ instrument
- ▶ telescope
- ▶ program
- ▶ observing mode
- ▶ program type
- ▶ author nationality
- ▶ **journal**
- ▶ etc.



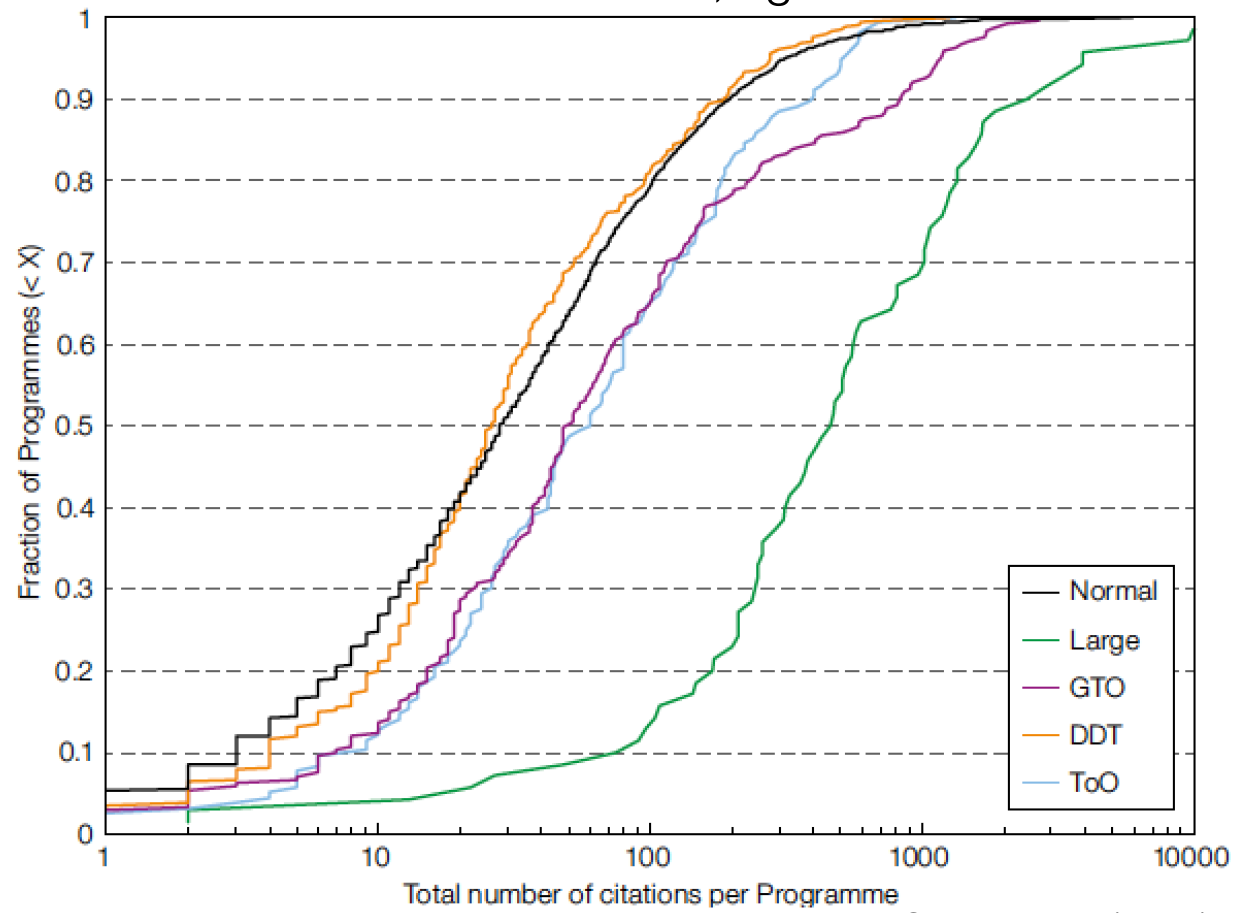


# Productivity & Impact

## ▶ Number of papers and **citations** per

- ▶ observatory
- ▶ instrument
- ▶ telescope
- ▶ program
- ▶ observing mode
- ▶ **program type**
- ▶ author nationality
- ▶ journal
- ▶ etc.

cumulative curves; right = best



Sterzik et al. (2015)





# Demographics

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How many distinct **authors**?

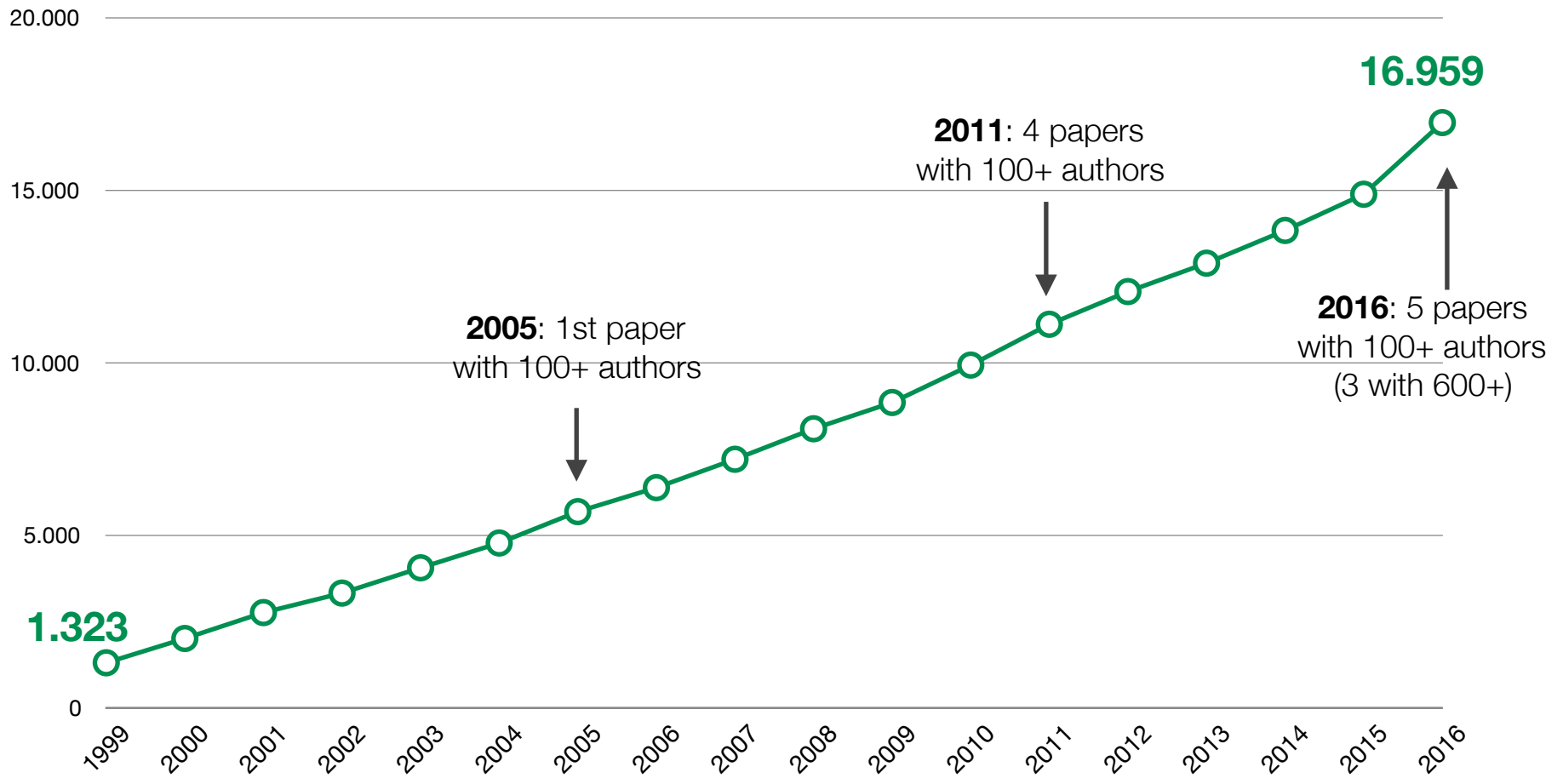


Which **nationalities** (countries of their affiliations)?



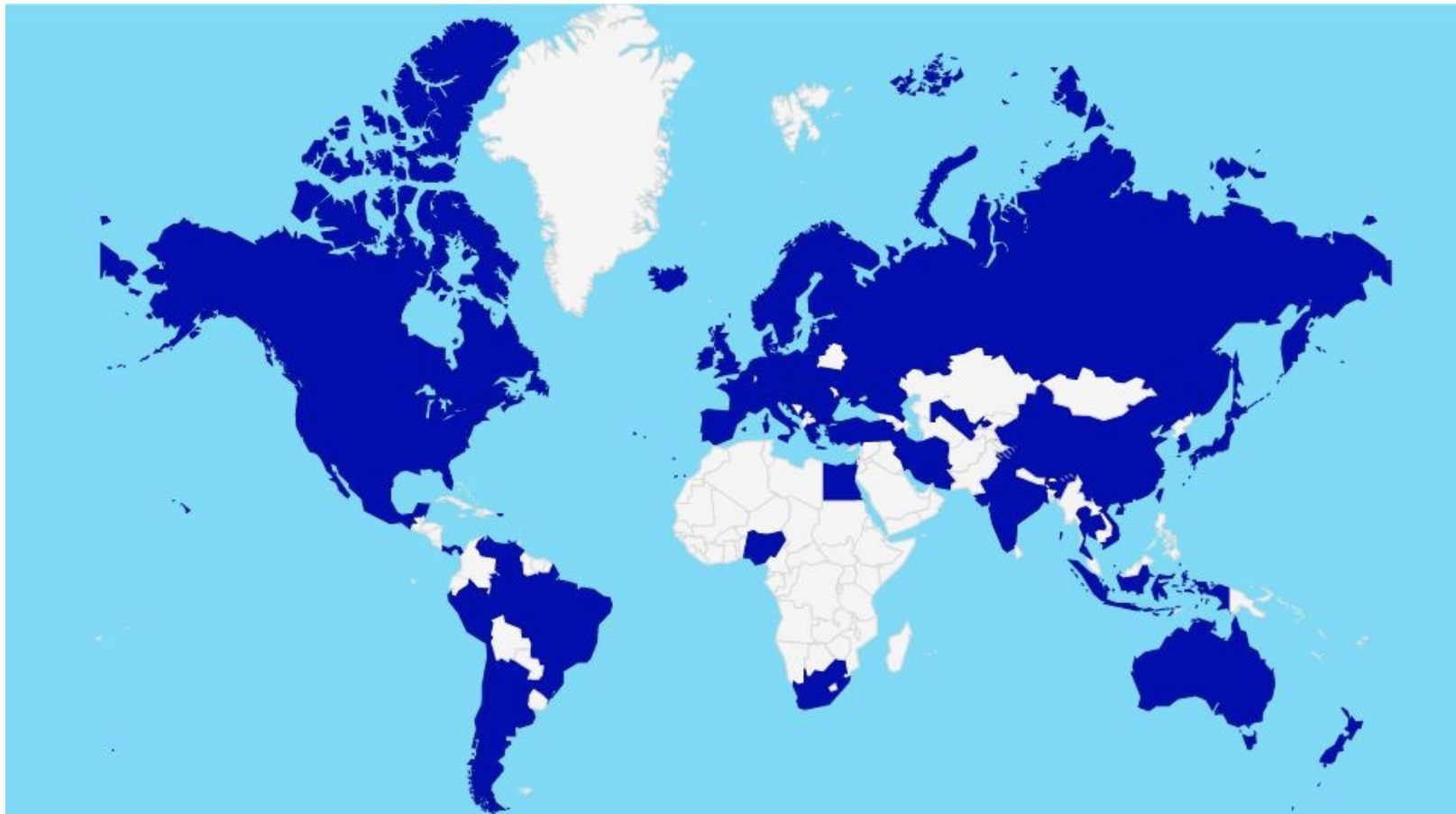
# Demographics: distinct authors

## Cumulative distinct telbib authors



# Demographics: author nationalities

- ▶ 1st authors from 64 countries







# Publishing trends

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How many **authors** and **programs per paper**?



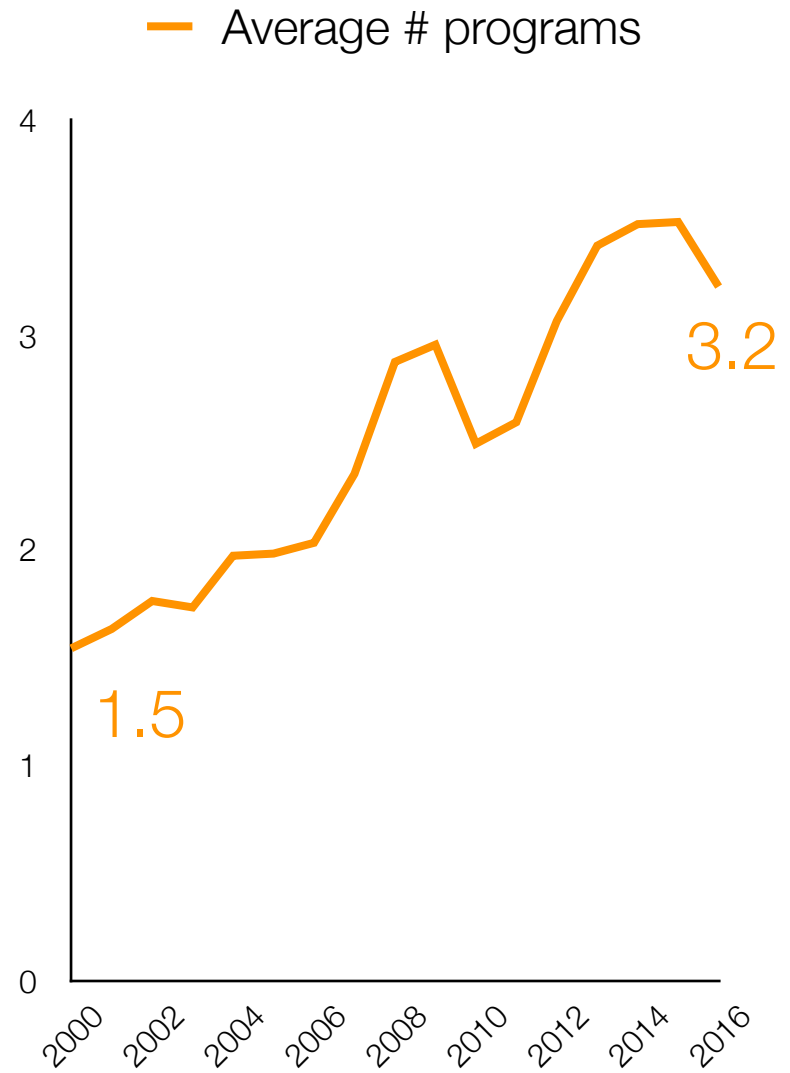
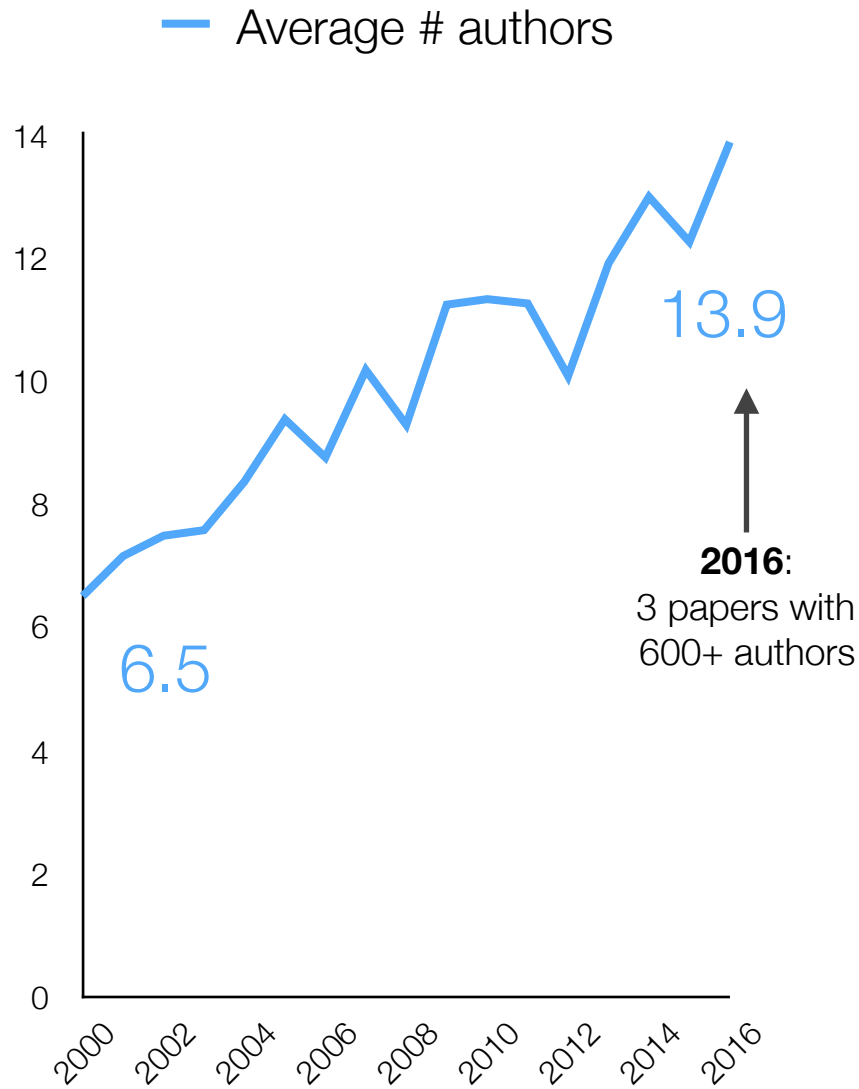
Fraction of papers that use **archival data**?



**Synergies** with other observatories?

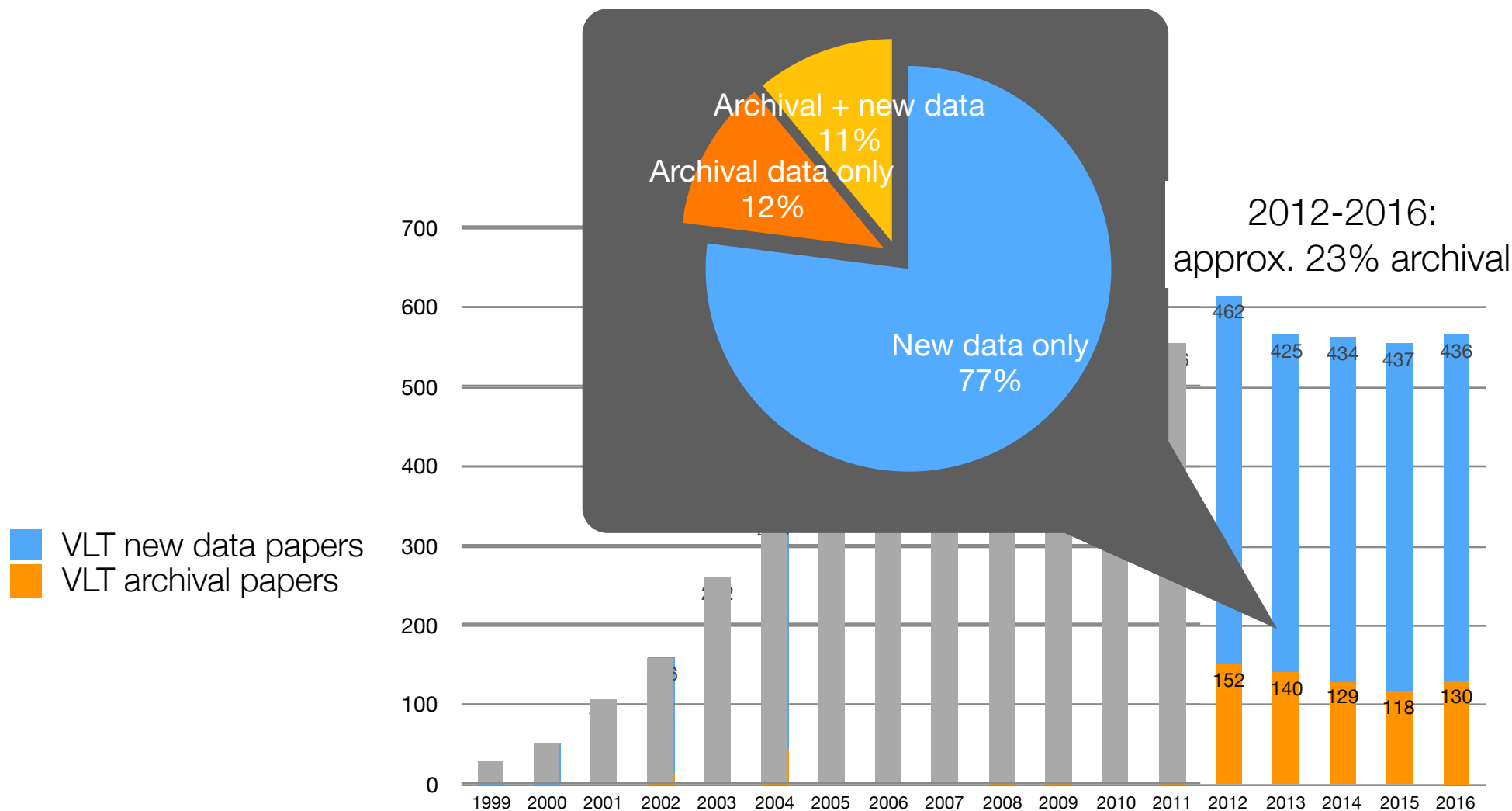


# Trends: authors + programs per paper



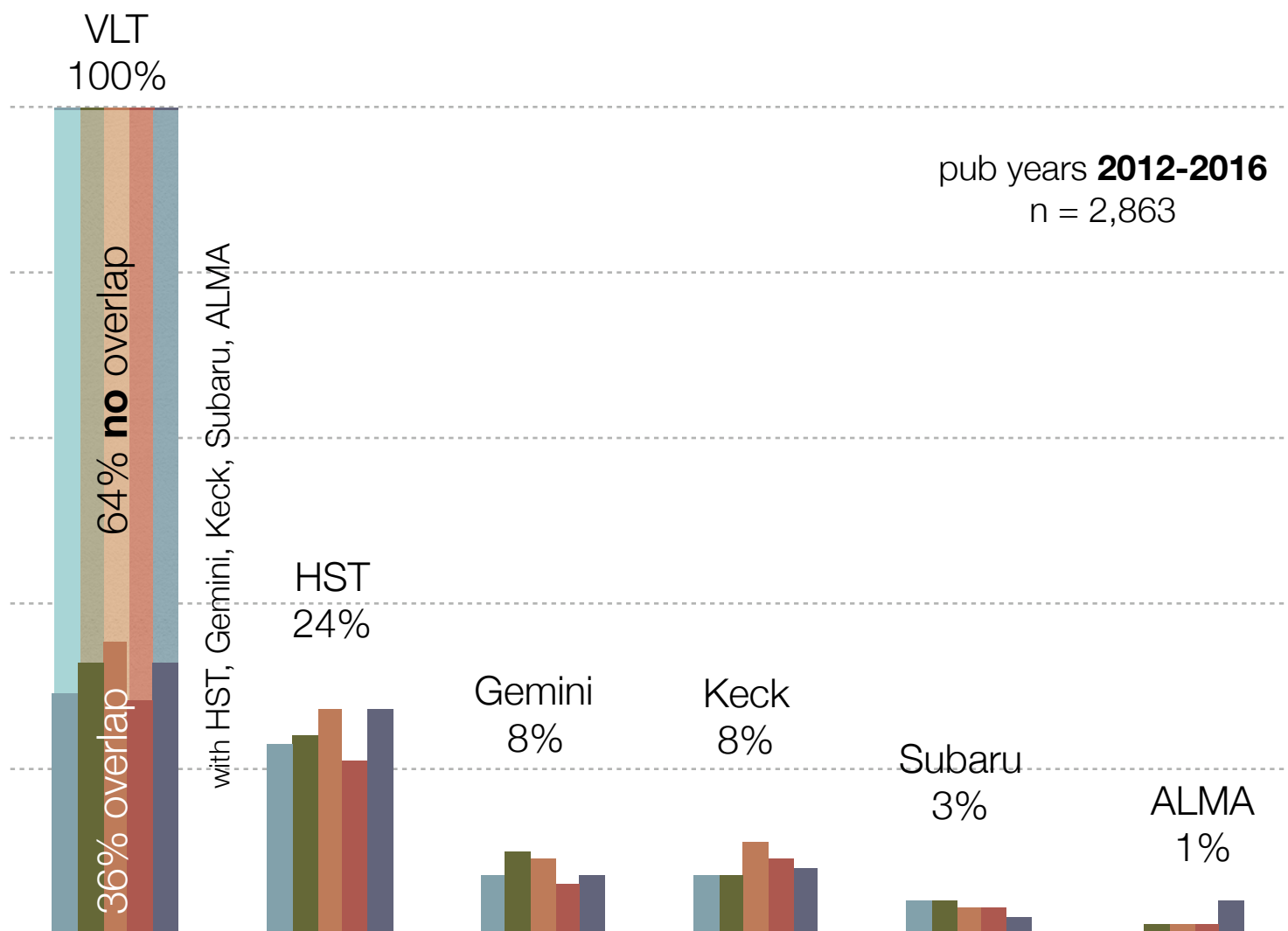


# Trends: archival data





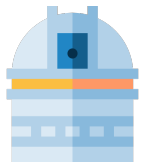
# Trends: synergies with other observatories





# Instrumentation management

---



Do any observing facilities need **upgrades**?

Should they even be replaced?



# Instrumentation management

---

## ► Planning tools:

- \* knowledge of community's needs, demand for observing time [not in telbib]
- \* number of **papers**
- \* number of **citations**
- \* **citation flux curves**: citations by year of citing paper

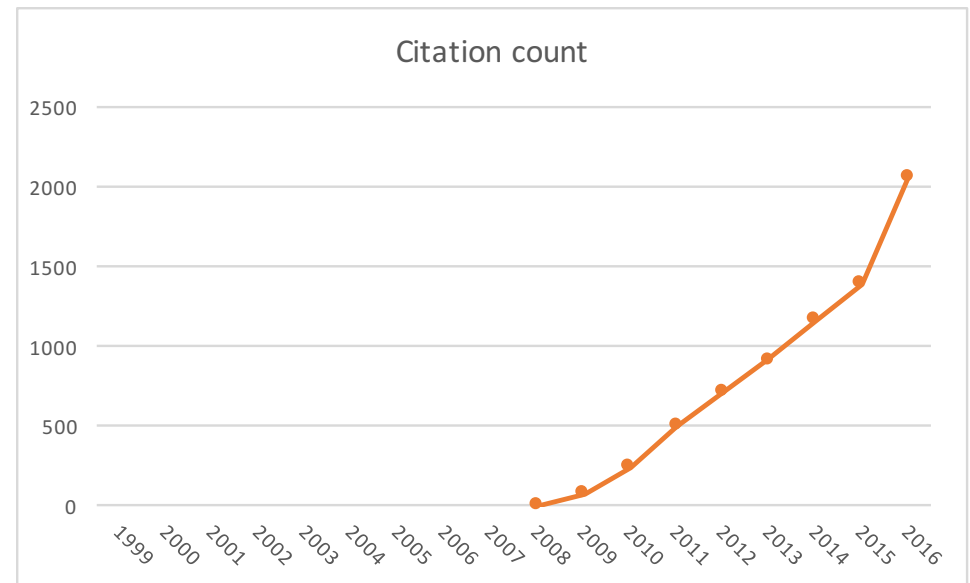
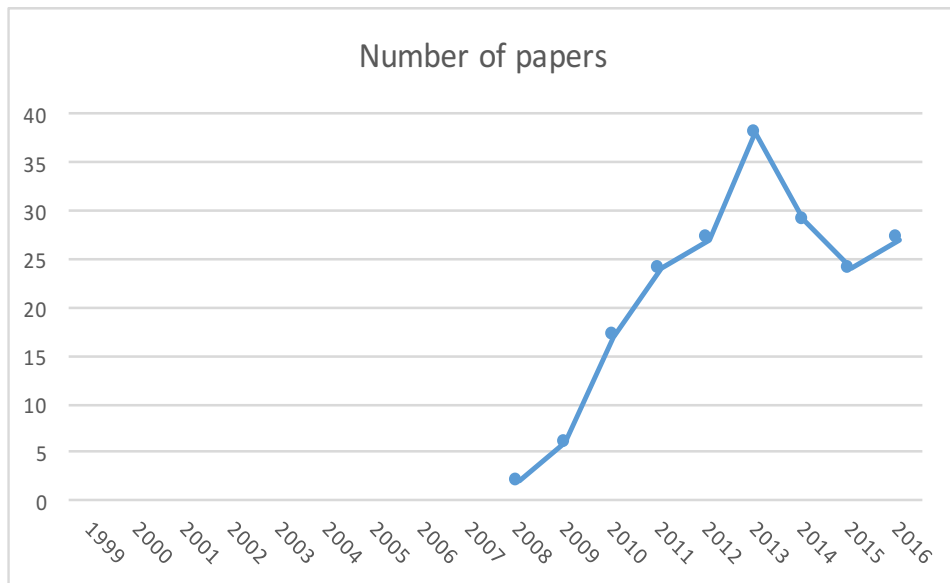
Based on Kulkarni, arXiv:1606.06674:

“Instruments with decreasing overall citation counts should be upgraded or replaced.”



# Instrumentation management

▶ Example 1: **HAWK-I**



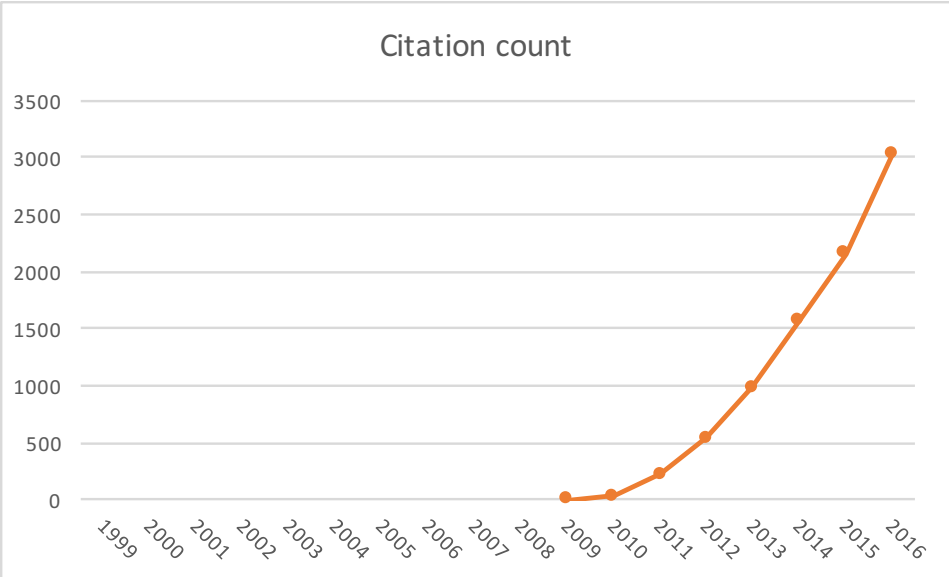
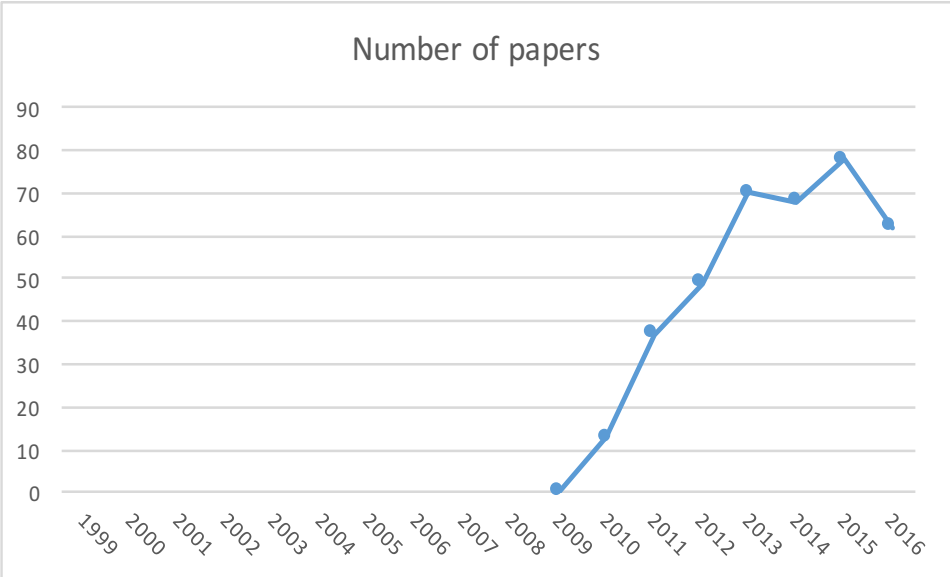
**Summary:** decline in papers since 2013; new module installed 2016/2017.

**Outlook:** impact of upgrade to be assessed



# Instrumentation management

▶ Example 2: **X-SHOOTER**



**Summary:** steep rise of papers and citations from start; paper “plateau” at approx. 70/yr

**Outlook:** some upgrades planned

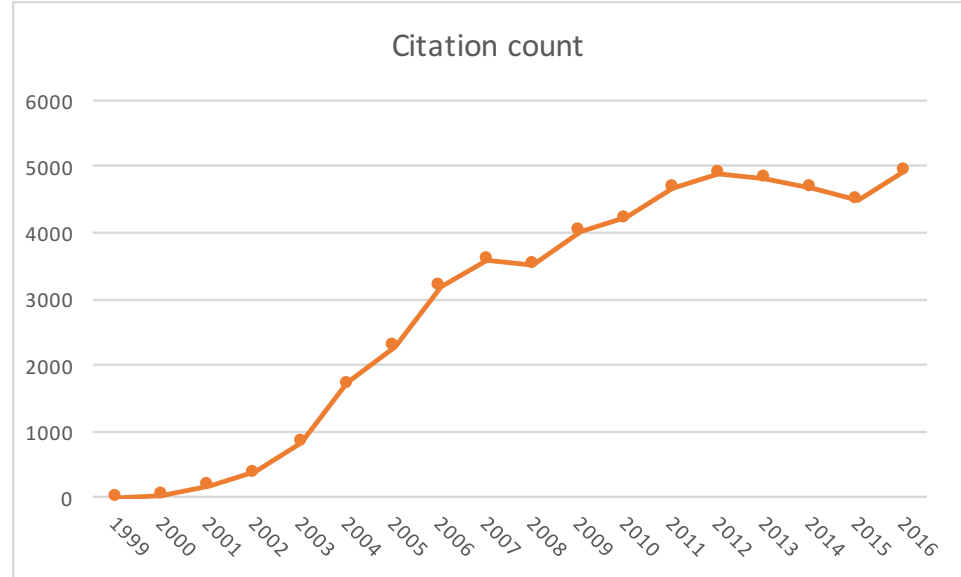
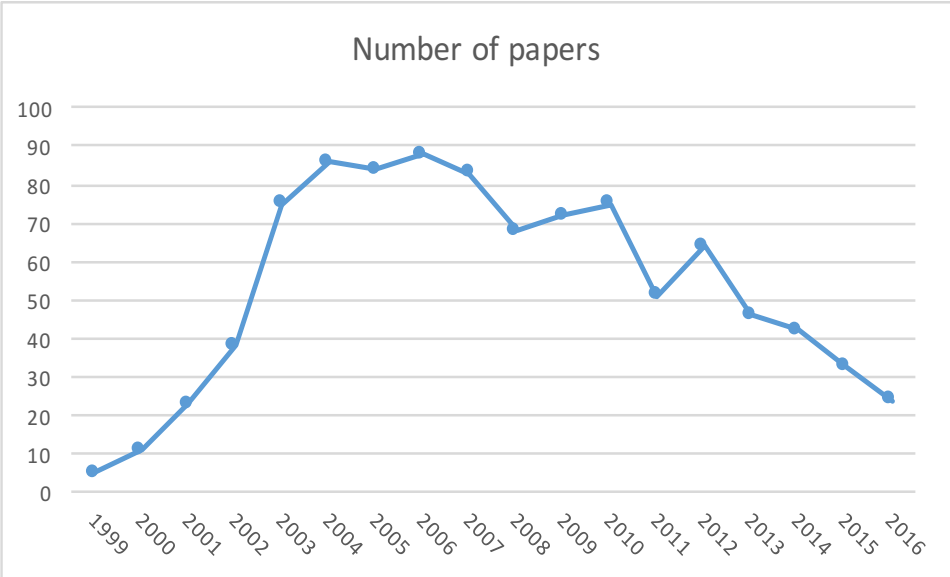






# Instrumentation management

▶ Example 3: **ISAAC**



**Summary:** ISAAC was among first VLT instruments; citation plateau reached

**Status:** decommissioned in Dec. 2013





# ③ Questions we **cannot** answer



## Questions we cannot answer

---

- ▶ **Subject analyses** + trends in topics (will the UAT help?)
- ▶ **Author gender** studies (ORCID?)
- ▶ **No “weights” assigned** to data in papers  
(1 spectrum vs. multiple observations vs. big data sets)
- ▶ telbib **results can become “blurry”** for papers with many programs with different characteristics

# 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. telbib provides insights

- ▶ numerous statistics, reports, and visualizations
- ▶ large range of parameters
- ▶ data available for 20+ years
- ▶ tool to understand publishing trends



## 3. telbib has many facets — and some limits

- ▶ not all questions can be answered
- ▶ continuous enhancement with new features

