



Basic ESO Publication Statistics

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Introduction

What is the ESO Telescope Bibliography?

The ESO Telescope Bibliography (telbib) is a database of refereed papers published by the ESO users' community. All papers use partly or exclusively data from ESO telescopes.

Paper classification / selection criteria

Papers pertaining to the ESO Telescope Bibliography use partly or exclusively data from ESO facilities. These can be observations taken by the authors or data obtained from the ESO Science Archive or other sources, regardless of whether or not the observations have been published before. However, papers that merely quote results from the literature, that are derived from ESO data, are excluded. Likewise, papers that describe instrumentation or software, simply mention ongoing projects (e.g., surveys or Large Programmes), suggest future observations with ESO facilities, develop models or run simulations, using data merely as examples, are not included in telbib. Also excluded are papers which show ESO images as a visual reference rather than using them to achieve scientific results.

The ESO librarians communicate with authors as well as ESO instrument scientists and archive specialists to determine if, and which, observations were used in publications. The final decision about inclusion or exclusion of a given paper lies with the ESO Director for Science.

Coverage and Completeness

telbib contains records from publication year 1996 onwards. New records are added approx. 3 weeks after they appear with their final bibcode on the NASA ADS Abstract Service. The following journals are routinely screened: *A&A*, *A&ARv*, *AJ*, *AN*, *ApJ*, *ApJS*, *ARA&A*, *EM&P*, *Icarus*, *MNRAS*, *Nature*, *NewA*, *NewAR*, *PASJ*, *PASP*, *P&SS*, *Science*.

For VLT/VLTI and Chajnantor facilities, instrument-level information and program IDs are available since the beginning of operations. All papers based on data from La Silla facilities are tagged with telescope labels since 1996, but instrument labels and program IDs have only been assigned to papers from publishing year 2000 onwards. In addition, some instruments (e.g., FEROS@1.5 m telescope) may have been operated under special agreements for which no program IDs exist.

We make extensive efforts in order to identify all refereed papers that use ESO data (see also the telbib Help pages at <http://telbib.eso.org/help.html>) and consider telbib essentially complete.

Populating the Database

telbib is compiled by scanning the major astronomy journals for scientific papers that contain any of the ESO-defined keywords (e.g., telescope and instrument names). Bibliographic information, citations and some further metadata are imported from the NASA ADS Abstract Service. Standardized descriptions of telescopes and instruments, survey names and other tags as well as ESO program IDs are assigned by the librarians.

Access, Reports, Statistics

telbib's public interface is available at <http://telbib.eso.org>. While the public interface provides access to some publications that use data obtained during non-ESO time (such as APEX observations obtained during Max Planck, Onsala, or Chilean observing time), statistics reported in this document include only papers based on data from telescopes and instruments for which observing time is recommended by the ESO OPC (Observing Programmes Committee), unless explicitly mentioned otherwise.

Metrics derived from the database can be explored in various ways:

- search results are shown in tabular format. Whenever possible, entries include ESO program IDs that provide direct links to the data in ESO Archive. The results can be exported for further use
- search results can be visualized as animated charts which are created on-the-fly, based on the user's queries
- interactive graphs of selected statistics are available in the telbib Statistics area (<http://telbib.eso.org/telbibstats/>)
- an overview of publication statistics is available at http://telbib.eso.org/pubstats_overview.php. In order to make our statistics more transparent and reproducible, the numbers are linked to the corresponding records in the telbib database
- various metrics as well as instrument-level statistics derived from the database can be found in this document, "Basic ESO Statistics", which is available on the [ESO Libraries homepage](#) or directly at <http://www.eso.org/libraries/edocs/ESO/ESOstats.pdf>
- lists of papers included in the ESO telescope bibliography are available as Supplements to the ESO Annual Report (<http://www.eso.org/public/products/annualreports/>).

For more detailed reports, contact the ESO librarians (library@eso.org).

Publications

ESO publication statistics are derived from the Telescope Bibliography (telbib), a database of refereed articles that directly use ESO data. telbib is maintained by the ESO library. Here, we provide some basic statistics to give an overview of publications and citations for the publication years 1996-2016.

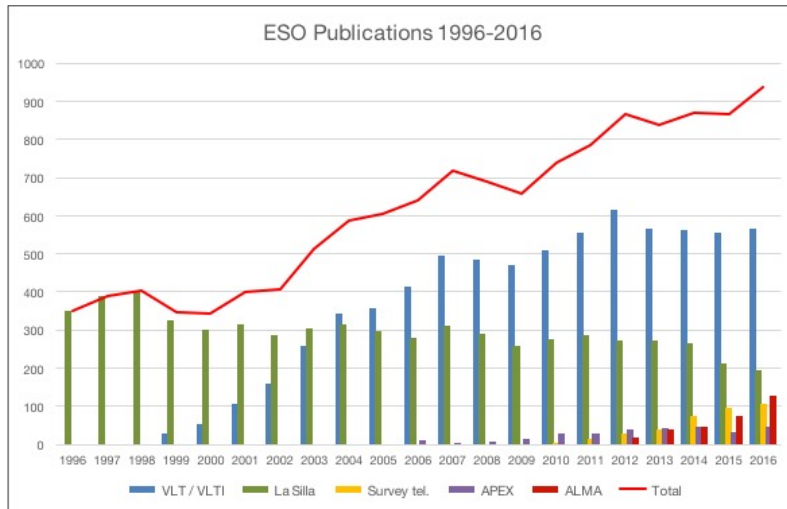


Fig. 1: Refereed papers using ESO data

Notes:

VLT/VLTI: papers using data generated by VLT and VLTI instruments, including visitor instruments for which observing time is recommended by the ESO OPC (Observing Programmes Committee), e.g., VLT Ultracam, VLTI PIONIER.

La Silla: papers using data generated by facilities located on La Silla, including visitor instruments for which observing time is recommended by the ESO OPC, e.g., NTT Ultracam. Papers based on data from non-ESO telescopes or observations obtained during 'private' periods are not included.

Survey telescopes: papers using data generated by ESO's survey telescopes VISTA and VST

APEX: papers using data generated by APEX, including visitor instruments for which observing time is recommended by the ESO OPC, e.g., APEX P-Artemis, APEX Z-Spec. Other visitor instruments (e.g., APEX/CONDOR) are excluded. Only papers based (entirely or partly) on ESO APEX time are included.

ALMA: papers using data generated by ALMA. Only papers based (entirely or partly) on European ALMA time are included.

Papers can use data from more than one facility, therefore the total number cannot be calculated by simply adding all publications of the individual sites, telescopes, or instruments.

Publication and citation statistics mentioned in this report date from February 2017.

	VLT / VLTI	La Silla	Survey tel.	APEX	ALMA	Total
1996		350				350
1997		389				389
1998		405				405
1999	29	324				348
2000	52	300				342
2001	105	316				399
2002	159	288				408
2003	260	305				512
2004	342	316				588
2005	359	296				606
2006	413	279		12		640
2007	495	312		1		718
2008	486	289		8		689
2009	472	260		15		659
2010	510	277	2	28		738
2011	555	286	13	27		786
2012	614	271	30	40	16	865
2013	565	273	38	44	40	840
2014	563	267	73	47	47	871
2015	555	211	94	33	73	865
2016	565	195	107	46	129	936

Table 1: Number of refereed papers using ESO data (see also http://www.eso.org/sci/libraries/telbib_pubstats_overview.html)

Citations

In bibliometric studies, numbers of publications show the observatory's productivity, citations the impact papers have made among the community.

Since it takes time to gather citations, older papers typically have higher citation numbers than recent ones.

While it is tempting to use publication and citation statistics for comparisons, this has to be done with **utmost care** as the numbers may have been obtained with different methodologies.

	Pubs	Cites	Average
1996	350	16320	46.60
1997	389	16971	43.60
1998	405	30580	75.50
1999	348	25198	72.40
2000	342	16684	48.80
2001	399	19301	48.40
2002	408	21654	53.10
2003	512	32479	63.40
2004	588	38923	66.20
2005	606	31028	51.20
2006	640	37387	58.40
2007	718	35683	49.70
2008	689	31847	46.20
2009	659	33701	51.10
2010	738	32450	44.00
2011	786	28089	35.70
2012	865	25803	29.80
2013	840	23863	28.40
2014	871	17393	20.00
2015	865	11608	13.40
2016	936	4907	5.20

Table 2: Total and average citations of refereed papers using ESO data

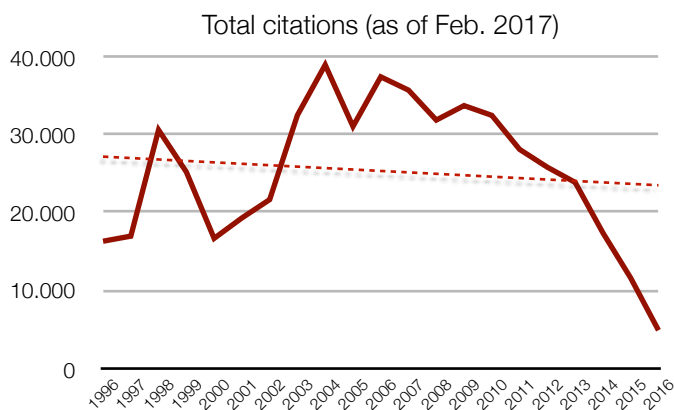


Fig. 2a: Total citations of papers using ESO data (with trend line)

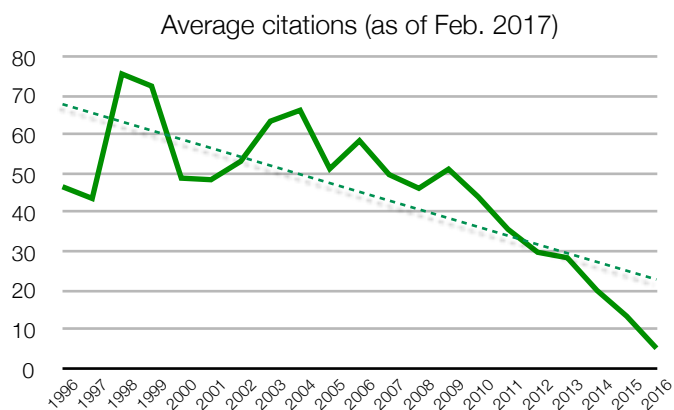


Fig. 2b: Average citations of papers using ESO data (with trend line)

ESO and other Observatories

In order to put ESO's research output into context, we give an overview of the total numbers of publications of major observatories for the publication years 1996 to 2015 (if already available). Note that some facilities date back further than that; their early years are not included in this graph.

The **most simplistic way** of comparing facilities is to look at the numbers of publications. Obviously, this favors large institutions with many facilities over smaller ones. **A more meaningful investigation should normalize the numbers** in some way, for instance by number of observing hours, by actual share of data used in the papers (as many scientific articles use data from more than one observatory), or by budget (telescope construction costs and maintenance).

When comparing publication statistics among different observatories, it is essential to assess the **selection criteria** applied by each observatory. To the best of our knowledge, the observatories shown in this graph include only papers that actually use observational data from their facilities (as opposed to merely referencing them). All papers were published in refereed journals.

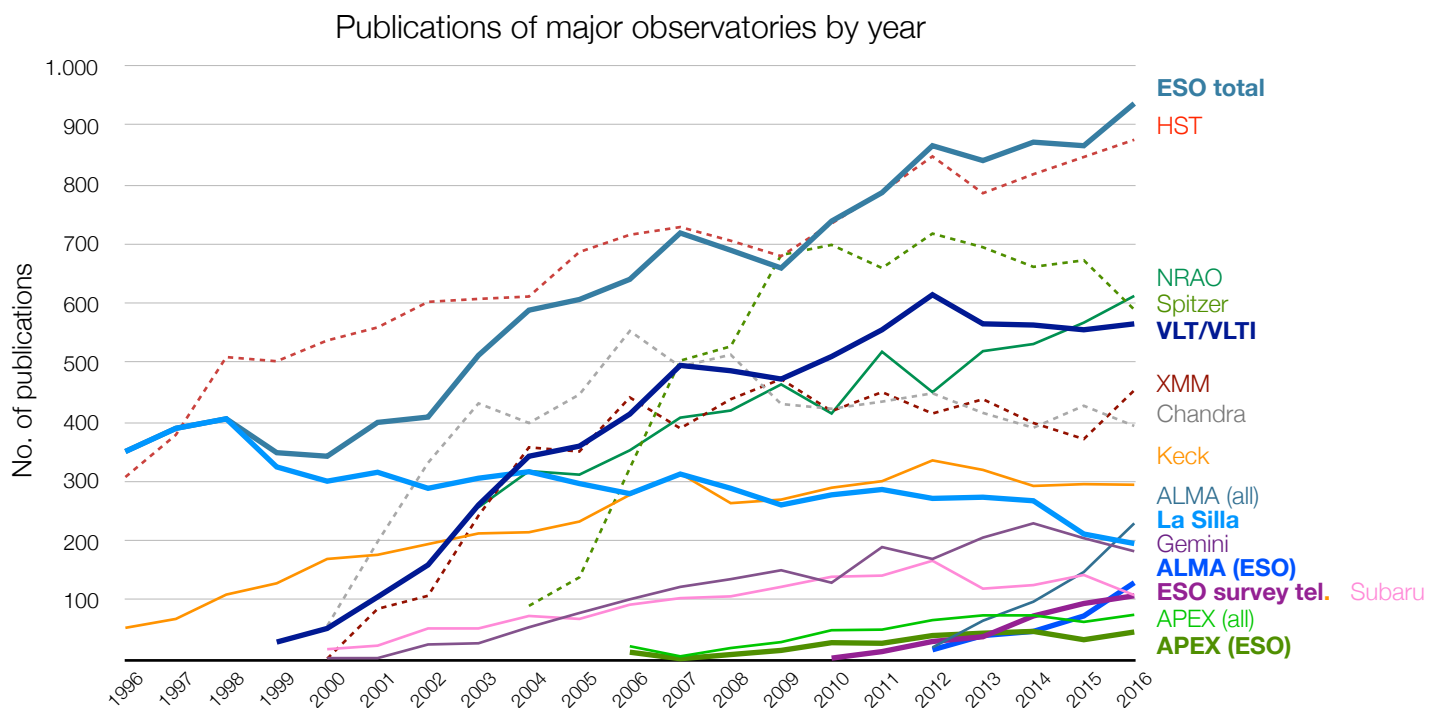


Fig. 3: Refereed publications by ESO and other observatories (as of Feb. 2017)

Thick lines: ESO facilities. **Thin lines:** other ground-based facilities. **Dashed lines:** space-based facilities.

Please note that selection criteria for inclusion or exclusion of papers vary among observatories

The statistics shown in Fig. 3 and Table 3 were obtained as follows:

ESO total, VLT/VLTI, La Silla, ESO survey telescope, APEX (ESO and all partners), **ALMA** (Europe and all partners):

ESO Telescope Bibliography (<http://telbib.eso.org>)

Chandra: Chandra Bibliographic Statistics (<http://cxc.harvard.edu/cda/bibstats/bibstats.html> 'Refereed Chandra Science Papers' and www.eso.orghttp://cxc.harvard.edu/cda/bibstats/plots/Current/Papers_by-year.txt)

Gemini: ADS (Filters / Select References In, http://esoads.eso.org/abstract_service.html#jouse1)

HST: HST Publication Statistics (<http://archive.stsci.edu/hst/bibliography/pubstat.html>)

Keck: Keck Science Bibliography (http://www2.keck.hawaii.edu/library/keck_papers.html)

NRAO: NRAO Publication Statistics (<http://www.nrao.edu/library/pubstats.shtml>)

Spitzer: Spitzer Bibliographical Database (<http://sohelp2.ipac.caltech.edu/bibsearch/>)

Subaru: ADS (Filters / Select References In, http://esoads.eso.org/abstract_service.html#jouse1)

XMM: XMM-Newton in the Journals (<http://heasarc.gsfc.nasa.gov/docs/xmm/xmmbib.html>). Number of publications per year provided by Norbert Schartel, ESA, Madrid, Spain

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Bibliographies
ESO total	350	389	405	348	342	399	408	512	588	606	640	718	689	659	738	786	865	840	871	865	936	ESO telbib
VL/VTI				29	52	105	159	260	342	359	413	495	486	472	510	555	614	565	563	555	565	ESO telbib
La Silla	350	389	405	324	300	316	288	305	316	296	279	312	288	260	277	286	271	273	267	211	195	ESO telbib
ESO survey tel.															2	13	30	38	73	94	107	ESO telbib
APEX (ESO)											12	1	8	15	28	27	40	44	47	33	46	ESO telbib
ALMA (ESO)																	16	40	47	73	129	ESO telbib
APEX (all)											22	5	19	29	49	50	66	74	74	63	75	ESO telbib
ALMA (all)																	19	65	97	147	229	ESO telbib
Chandra					56	198	331	431	398	446	553	493	523	430	422	434	448	415	390	427	393	Chandra Bibliography
Gemini					2	2	25	27	54	78	101	122	135	150	129	189	169	205	229	204	182	Gemini via ADS
HST	307	378	509	502	537	559	602	607	611	686	715	728	705	679	734	787	847	785	817	846	875	HST
Keck	53	68	109	128	169	176	194	212	214	232	277	313	263	269	289	300	335	319	292	295	294	Keck Science Bibliography
NRAO								256	317	311	352	407	419	463	414	518	450	519	531	567	612	NRAO Publication Stats
Spitzer									90	138	322	503	527	681	698	659	717	694	661	672	589	Spitzer Biblio. DB
Subaru					17	23	52	52	73	68	92	103	106	122	139	141	166	119	125	142	108	Subaru via ADS
XMM					1	85	107	242	357	350	441	389	438	472	418	450	414	438	398	371	453	XMM

Table 3: Number of refereed papers using data from ESO and other observatories

ESO Top 20

The ESO Top 20 list contains the 20 articles that gathered the highest number of citations. All papers directly use ESO data and were published in refereed journals.

The first two papers are among the five highest quoted refereed papers listed on the ADS (see <http://tinyurl.com/lwb2tbc>)

#	Bibcode	Citations	Title	Authors	Telescopes / Instruments
1	1999ApJ...517..565P	9.949	Measurements of Omega and Lambda from 42 High-Redshift Supernovae	Perlmutter et al.	EFOSC2/3.6m
2	1998AJ....116.1009R	9.919	Observational Evidence from Supernovae for an Accelerating Universe and a Cosmological Constant	Riess et al.	EMMI/NTT, 3.6m, 1.5m
3	2004ApJ...607..665R	3.039	Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution	Riess et al.	FORS2

(Contd. from previous page)

#	Bibcode	Citations	Title	Authors	Telescopes / Instruments
4	2006A&A...447...31A	1.907	The Supernova Legacy Survey: measurement of Ω_M , Ω_Λ and w from the first year data set	Astier et al.	FORS1
5	1998Natur.391...51P	1.682	Discovery of a supernova explosion at half the age of the universe	Perlmutter et al.	EFOSC1/3.6m
6	2003ApJ...594....1T	1.454	Cosmological Results from High-z Supernovae	Tonry et al.	FORS1, ISAAC
7	1998Natur.395..670G	1.315	An unusual supernova in the error box of the γ -ray burst of 25 April 1998	Galama et al.	EMMI/NTT
8	2003ApJ...598..102K	1.271	New Constraints on Ω_M , Ω_Λ , and w from an Independent Set of 11 High-Redshift Supernovae Observed with the Hubble Space Telescope	Knop et al.	FORS1, EFOSC2/3.6m
9	2004ApJ...600L..93G	1.152	The Great Observatories Origins Deep Survey: Initial Results from Optical and Near-Infrared Imaging	Giavalisco et al.	FORS1, FORS2, ISAAC, WFI/2.2m, SOFI/NTT
10	2004A&A...418..989N	1.111	The Geneva-Copenhagen survey of the Solar neighbourhood. Ages, metallicities, and kinematic properties of $\sim 14\,000$ F and G dwarfs	Nordström et al.	Danish 1.5m
11	2008ApJ...686..749K	1.050	Improved Cosmological Constraints from New, Old, and Combined Supernova Data Sets	Kowalski et al.	Danish 1.5m, EFOSC2/3.6m
12	1998ApJ...507...46S	972	The High-Z Supernova Search: Measuring Cosmic Deceleration and Global Curvature of the Universe Using Type Ia Supernovae	Schmidt et al.	EMMI/NTT, 3.6m, 1.5m
13	2003Natur.423..847H	947	A very energetic supernova associated with the γ -ray burst of 29 March 2003	Hjorth et al.	FORS1, FORS2
14	2010ApJ...716..712A	915	Spectra and Hubble Space Telescope Light Curves of Six Type Ia Supernovae at $0.511 < z < 1.12$ and the Union2 Compilation	Amanullah et al.	FORS1, ISAAC, SUSI2
15	2013Sci...340..448A	876	A Massive Pulsar in a Compact Relativistic Binary	Antoniadis et al.	FORS2
16a	2006ApJ...648L.109C	874	A Direct Empirical Proof of the Existence of Dark Matter	Clowe et al.	WFI, FORS1
16b	2007ApJS..172....1S	874	The Cosmic Evolution Survey (COSMOS): Overview	Scoville et al.	VIMOS
18	2007ApJ...670..156D	867	Multiwavelength Study of Massive Galaxies at $z \sim 2$. I. Star Formation and Galaxy Growth	Daddi et al.	FORS2, ISAAC
19	2009ApJ...692.1075G	811	Monitoring Stellar Orbits Around the Massive Black Hole in the Galactic Center	Gillessen et al.	NACO, SINFONI
20	1997Natur.386..686V	772	Transient optical emission from the error box of the γ -ray burst of 28 February 1997	van Paradijs et al.	EFOSC2/NTT

Table 4: ESO Top 20 papers (as of February 2017)

VLT instruments

VLT papers use data generated by VLT instruments. Visitor instruments for which observing time is recommended by the ESO OPC (Observing Programmes Committee), e.g., VLT Ultracam, are included in the general VLT statistics (see page 3), but are not shown in Fig. 4. Instrument-level data for the VLT are available since the beginning of operations, i.e., from publication year 1999 onwards.

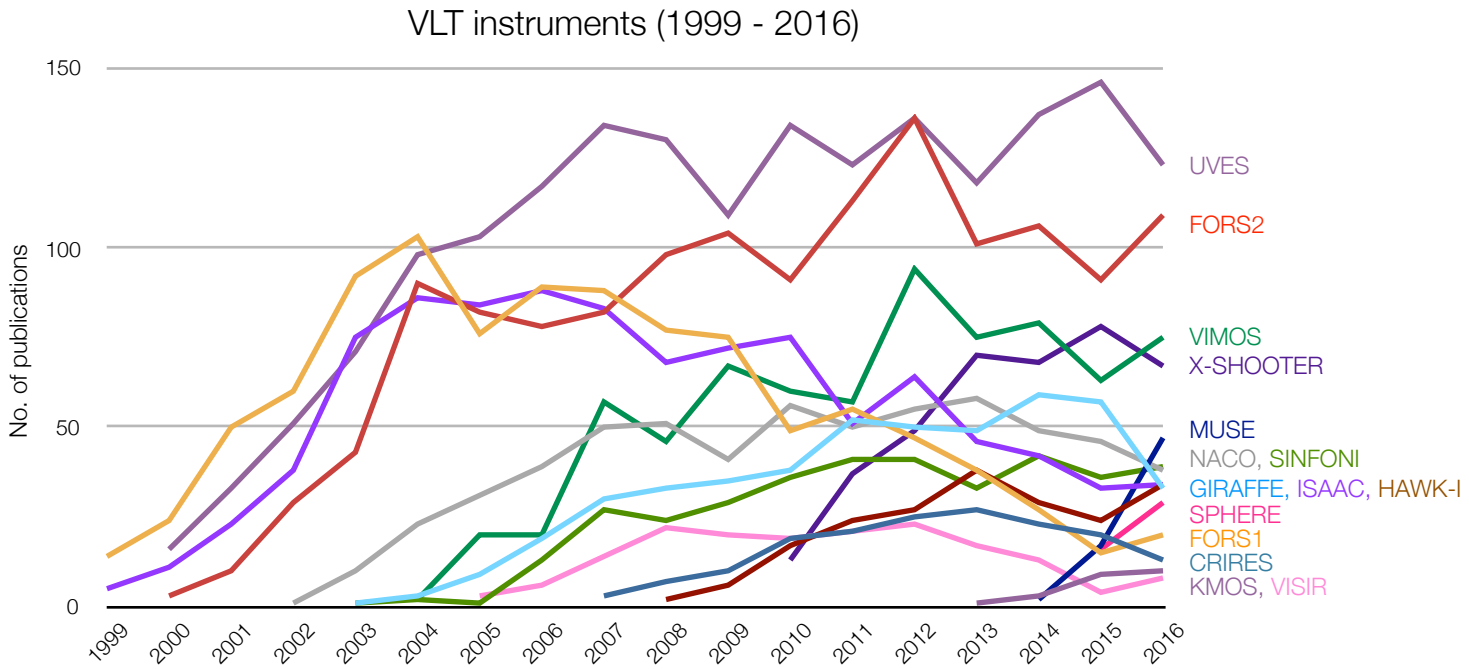


Fig. 4: Refereed publications using data from VLT instruments

FLAMES papers are listed as GIRAFFE and/or UVES
 NACO = NAOS + CONICA, SINFONI = SPIFFI + MACAO

VLT															
	CRIRES	FORS1	FORS2	GIRAFFE	HAWK-I	ISAAC	KMOS	MUSE	NACO	SINFONI	SPHERE	UVES	VIMOS	VISIR	X-SHOOTER
1999		14				5									
2000		24	3			11						16			
2001		50	10			23						33			
2002		60	29			38			1			51			
2003		92	43	1		75			10	1		71			
2004		103	90	3		86			23	2		98	2		
2005		76	82	9		84			31	1		103	20	3	
2006		89	78	19		88			39	13		117	20	6	
2007	3	88	82	30		83			50	27		134	57	14	
2008	7	77	98	33	2	68			51	24		130	46	22	
2009	10	75	104	35	6	72			41	29		109	67	20	
2010	19	49	91	38	17	75			56	36		134	60	19	13
2011	21	55	113	52	24	51			50	41		123	57	21	37
2012	25	47	136	50	27	64			55	41		136	94	23	49
2013	27	38	101	49	38	46	1		58	33		118	75	17	70
2014	23	27	106	59	29	42	3	2	49	42		137	79	13	68
2015	20	15	91	57	24	33	9	17	46	36	16	146	63	4	78
2016	13	20	109	33	34	34	10	47	38	39	29	123	75	8	67

Table 5: Number of refereed papers using VLT data

VLT instruments

VLT papers use data generated by VLT instruments, including visitor instruments for which observing time is recommended by the ESO OPC (Observing Programmes Committee), e.g. VLT PIONIER. Instrument-level data for the VLT are available since the beginning of operations, i.e., from publication year 2002 onwards.

VLT				
	AMBER	MIDI	PIONIER	VINCI
2002				1
2003				6
2004		3		12
2005		5		12
2006	1	11		6
2007	9	19		4
2008	12	11		1
2009	13	18		4
2010	12	6		1
2011	16	13	4	1
2012	18	8	2	1
2013	20	20	3	0
2014	15	12	13	1
2015	11	9	4	0
2016	13	7	11	0

Table 6: Number of refereed publications using data from VLT instruments

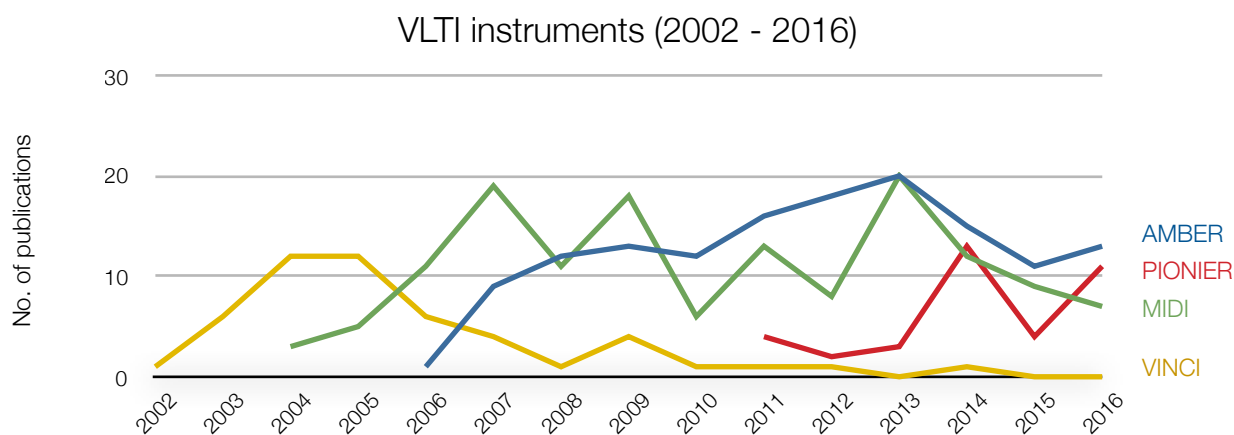


Fig. 5: Refereed publications using data from VLT instruments

Survey telescopes: VISTA + VST

ESO's Visible and Infrared Survey Telescope for Astronomy (VISTA), with its VIRCAM camera, has produced science papers since 2010. Papers mostly use data from the VV, VIKING, VMC, UltraVISTA, VHS, and VIDEO surveys. Observations with OmegaCAM at the VLT Survey Telescope (VST) led to the first data papers in 2014.

	VISTA (VIRCAM)	VST (OmegaCAM)
2010	2	
2011	13	
2012	30	
2013	38	
2014	65	8
2015	72	24
2016	93	18

Table 7: Number of refereed publications using data from the VISTA and VST telescopes

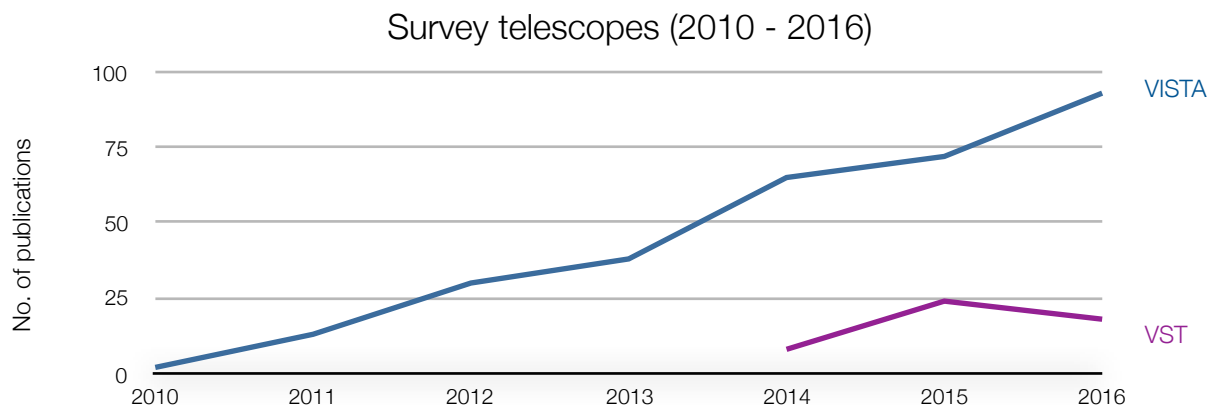
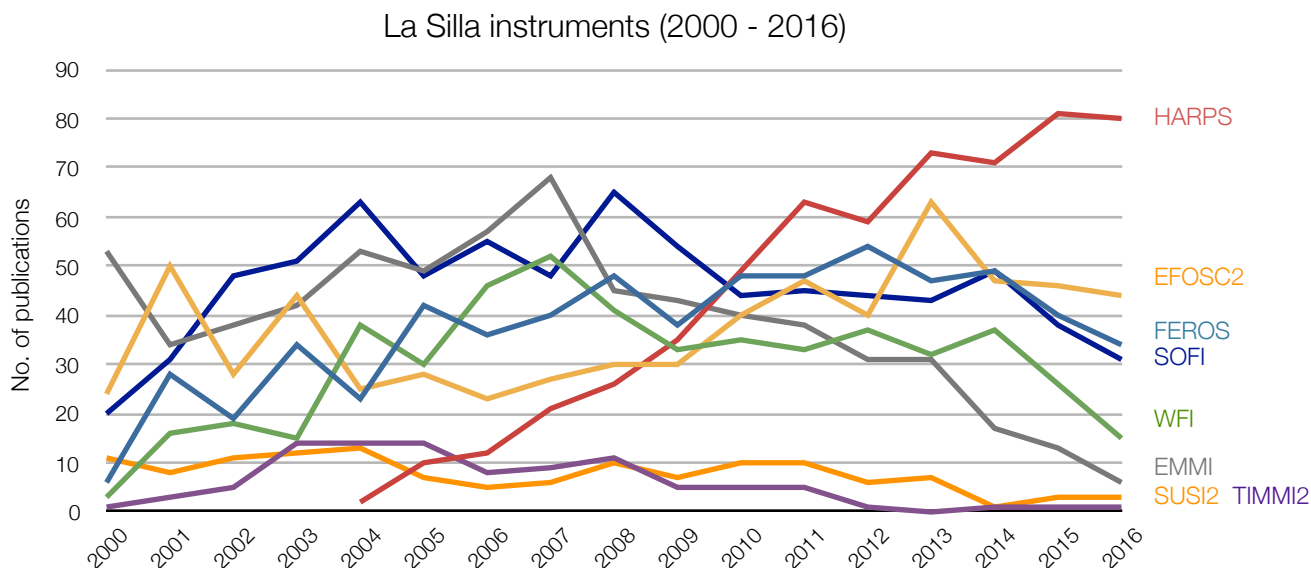


Fig. 6: Refereed publications using data from the survey telescopes

La Silla instruments

This section reports on papers that use data generated by other facilities of the La Silla Paranal (LSP) Observatory, located on La Silla. Papers based on data from non-ESO telescopes or observations obtained during reserved periods (e.g., national allocations of time) are not included. Instrument-level data for La Silla facilities are shown below from publication year 2000 onwards. Only papers based on data from FEROS (1.5m and 2.2m tel. combined), WFI (2.2m) EFOSC2 (2.2m, 3.6m, NTT combined), HARPS, TIMMI2 (both 3.6m), EMMI, SOFI, and SUSI2 (all NTT) are included in the graph. The table also shows papers based on data from smaller or decommissioned La Silla facilities if observations took place during ESO time. Visitor instruments for which observing time is recommended by the OPC (e.g., NTT Ultracam) are included in the general statistics (see p. 3), but are not shown in Fig. 7.



EFOSC2 = EFOSC2@NTT, EFOSC2@3.6m + EFOSC2@2.2m
 FEROS = FEROS@1.5m + FEROS@2.2m
 La Silla decomm. = small or decommissioned facilities.
 National telescopes (e.g., Swiss Euler Tel.) are **excluded**

Fig 7 (above) and Table 8 (below): Number of refereed papers using data from La Silla facilities

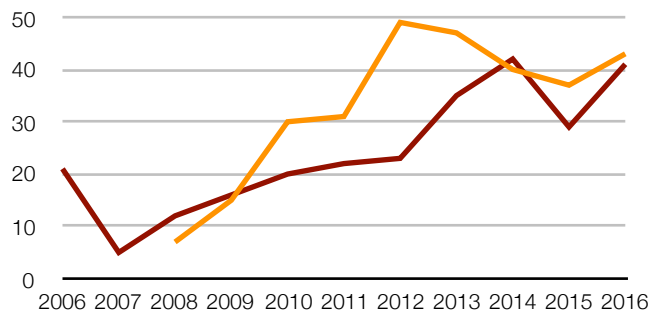
	2.2m		3.6m		NTT				La Silla decomm.
	FEROS	WFI	HARPS	TIMMI2	EFOSC2	EMMI	SOFI	SUSI2	
2000	6	3		1	24	53	20	11	209
2001	28	16		3	50	34	31	8	172
2002	19	18		5	28	38	48	11	161
2003	34	15		14	44	42	51	12	146
2004	23	38	2	14	25	53	63	13	153
2005	42	30	10	14	28	49	48	7	122
2006	36	46	12	8	23	57	55	5	77
2007	40	52	21	9	27	68	48	6	84
2008	48	41	26	11	30	45	65	10	60
2009	38	33	35	5	30	43	54	7	56
2010	48	35	49	5	40	40	44	10	41
2011	48	33	63	5	47	38	45	10	35
2012	54	37	59	1	40	31	44	6	27
2013	47	32	73	0	63	31	43	7	31
2014	49	37	71	1	47	17	49	1	33
2015	40	26	81	1	46	13	38	3	13
2016	34	15	80	1	44	6	31	3	16

APEX

APEX is a collaboration between the Max-Planck-Institute for Radio Astronomy (MPIfR, 50%), the Onsala Space Observatory (OSO, 23%), and ESO (27%). The telescope is located on the Chajnantor plateau in Chile's Atacama region and is operated by ESO.

Publication information for APEX is available since the beginning of operations, i.e., from publication year 2006 onwards. Papers based on data from all APEX partners are recorded in the ESO Telescope Bibliography (telbib), but only those that use ESO/APEX data are counted in the ESO statistics.

APEX		
	ESO/APEX	all APEX
2006	12	22
2007	1	5
2008	8	19
2009	15	29
2010	28	49
2011	27	50
2012	40	66
2013	44	74
2014	47	74
2015	33	63
2016	46	75
Total	301	526



Imagers: APEX-SZ, Artemis, LABOCA, P-Artemis, SABOCA
Spectrographs: APEX-2A, CHAMP+, CONDOR, FLASH, MPI_1.1THz, SEPIA, SHFI, ZEUS-2, Z-Spec

Table 9: Number of refereed publications using ESO/APEX data and data generated by all APEX partners, respectively.

Fig. 8: Number of refereed publications using APEX bolometer and heterodyne instruments, respectively. Data are from observations by all APEX partners.

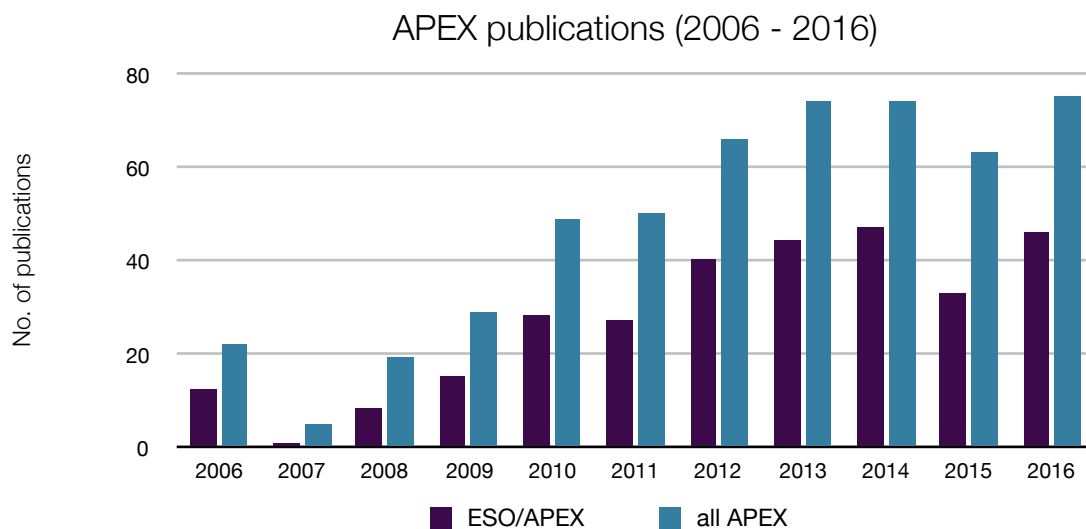


Fig. 9: Refereed publications using ESO/APEX data. For comparison, all APEX papers are shown.

ALMA

ALMA, the Atacama Large Millimeter/submillimeter Array, is an international collaboration between Europe, East Asia, and North America in cooperation with the Republic of Chile. The European executive is represented by ESO, which also hosts the European ALMA Regional Centre. The other partners North America and East Asia are represented by NRAO and NAOJ, respectively. The ALMA telescope bibliography is maintained by the librarians at ESO and NRAO as well as by NAOJ.

Papers based on European observing time as well as on data from all ALMA partners are recorded in the ESO Telescope Bibliography (telbib), but only those that use ESO/ALMA data are counted in the ESO statistics. Both numbers are shown below for comparison.

Papers resulting from science verification data are attributed to the four ALMA partners JAO, ESO, North America, and East Asia.

ALMA		
	ESO/ALMA	all ALMA
2012	16	19
2013	40	65
2014	47	97
2015	73	147
2016	129	229
Total	305	557

Table 10: Number of refereed publications using ESO/ALMA data and data generated by all ALMA partners per year, respectively.

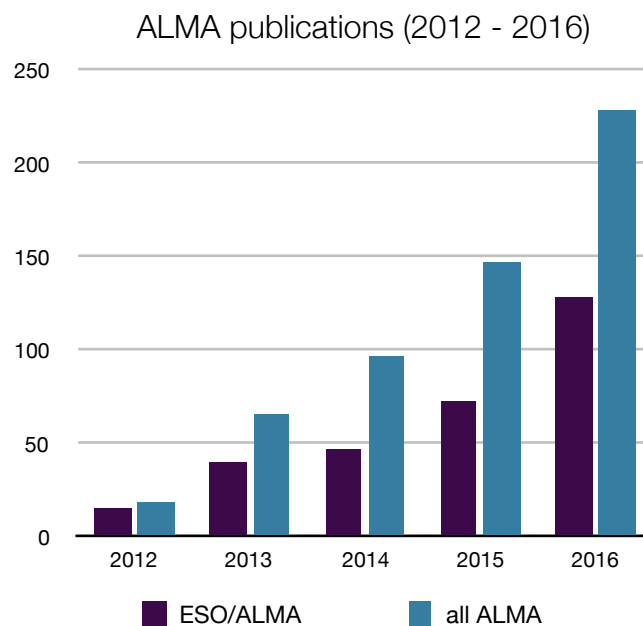


Fig. 10: Refereed publications using ESO/ALMA data. For comparison, all ALMA papers are shown. The graph is not cumulative.

Further Information

see also http://www.eso.org/sci/libraries/useful_links/publications.html

Articles and Presentations

Grothkopf, U. & Meakins, S. (2015): ESO telbib: linking in and reaching out, in: LISA VII, Holl, A. et al. (eds.), Astronomical Society of the Pacific, San Francisco, CA, USA, vol. 492, p. 63-70 ([ASP paper](#) / [Presentation slides](#))

Meakins, S. & Grothkopf, U. (2012): Linking Publications and Observations - the ESO Telescope Bibliography, in: ADASS XXI, Ballester, P. (ed.), Astronomical Society of the Pacific, San Francisco, CA, USA, vol. 461, p. 767-770 ([ASP paper](#) / [Manuscript: arXiv:1112.5375](#) / [Poster](#))

Grothkopf, U. & Meakins, S. (2012): ESO Telescope Bibliography - new public interface, The ESO Messenger, no. 147 (March 2012), 41-43 (<http://www.eso.org/sci/publications/messenger/archive/no.147-mar12/messenger-no147-41-43.pdf>)

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Grothkopf, U., Melo, C., Erdmann, C, Kaufer, A. & Leibundgut, B. (2007): Using the h-index to explore the scientific impact of the VLT, The ESO Messenger, no. 128 (June 2007), 62-66 [www.eso.org/sci/libraries/articles/messenger-no128p62.pdf]

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Leibundgut, B., Grothkopf, U. & Treumann, A. (2003): Metrics to measure ESO's scientific success, The ESO Messenger, no. 114 (December 2003), 46-49 [www.eso.org/sci/libraries/articles/messenger-no114p46.pdf]

Telbib-related links:

- ▶ ESO Telescope Bibliography: <http://telbib.eso.org>
- ▶ ESO publication statistics overview (html, statistics linked to corresponding papers in telbib): http://telbib.eso.org/pubstats_overview.php
- ▶ Interactive graphs of telbib statistics: <http://telbib.eso.org/telbibstats/>
- ▶ telbib Methodology: http://www.eso.org/libraries/telbib_methodology.html
- ▶ telbib RSS feed: <http://www.eso.org/libraries/rss.php>
- ▶ telbib "Wordle" 1996-2011: http://telbib.eso.org/img/telbib_instruments_wordle.pdf

