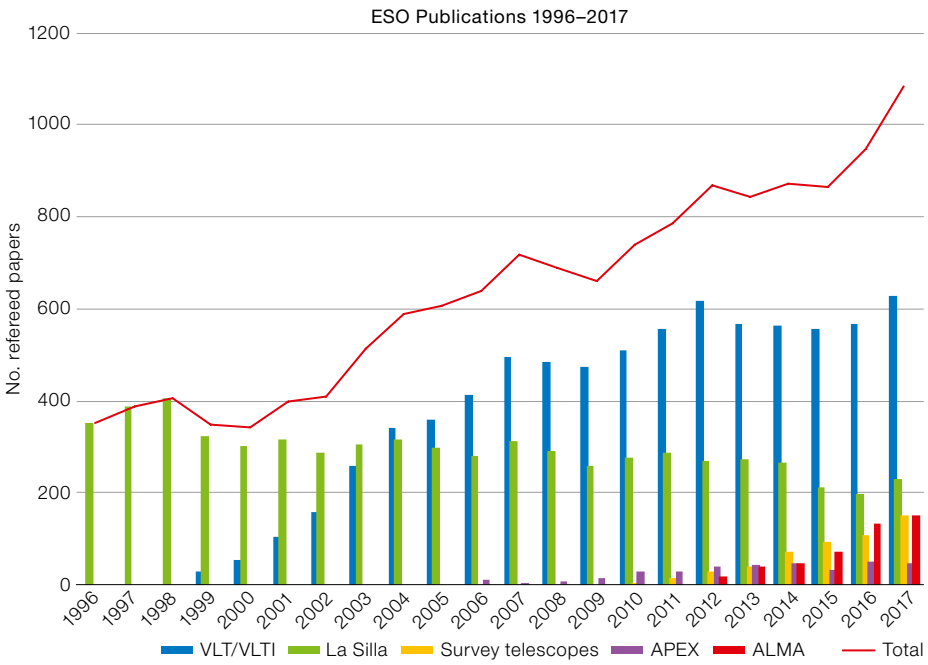
Publication Digest

The Telescope Bibliography (telbib), a database developed and curated by the ESO Library, is used to evaluate the Organisation's productivity and impact through the number of published papers based on ESO data and through their citations. In 2017, for the first time in ESO's history, the number of refereed articles published by ESO users exceeded 1000 in a single year.

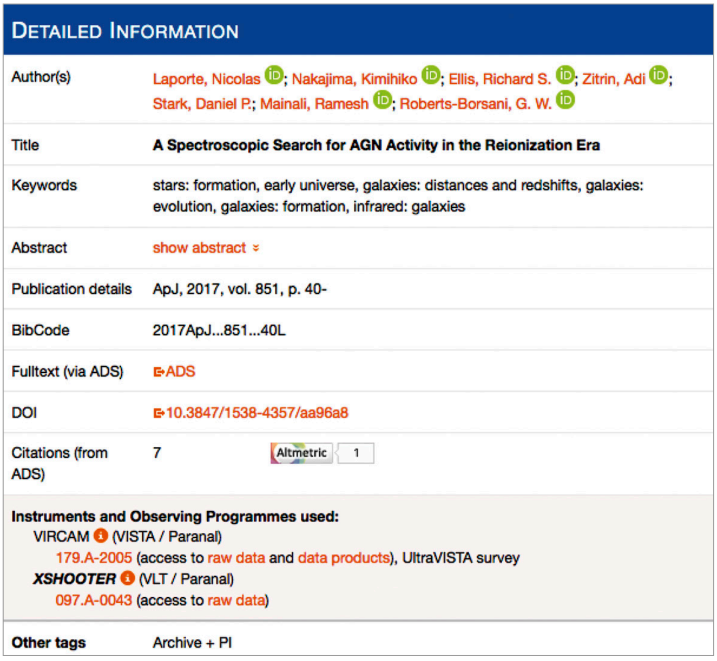
This peak surpasses the previous high of 870 papers in 2012 and is mirrored by excellent statistics from each of the individual observing sites. The number of VLT/VLTI and La Silla papers underwent a significant upswing in 2017. The largest increase occurred for ESO's survey telescopes, VISTA and especially the VST, which generated almost 40% more papers than in the previous year. The number of papers using APEX during ESO time remained stable, while ALMA data obtained during ESO observing time led to 14% more papers than in 2016.

In 2017, approximately 11 000 refereed papers were screened through text-mining and manual verification; this is about 300 papers more than in the previous two years. The ESO publication statistics per site and for the entire Observatory are shown in the bar chart. Before inclusion in the telbib database each paper is carefully examined by the curators to make sure that ESO's selection criteria are met. Details of telbib, tables with links to the papers in the bar chart, and the methodology used to screen papers can be found via the telbib webpage at http://telbib.eso.org.

In 2017, the public interface of telbib was enhanced to provide more information about which data were used in a particular paper, and to enable access to reduced as well as raw data for papers that use archival data products. A new checkbox on the telbib interface selects papers that (exclusively or partly) use data obtained from the ESO Science Archive. The display of data links in the detailed record view has been revised so that programmes are grouped by instrument. Instrument names are also connected to the respective instrument pages. In addition, ORCIDs (Open Researcher and Contributor IDs) have been integrated into author records and are displayed in telbib records, providing links to the author's ORCID profile page.



Refereed papers using ESO data, 1996–2017. Some papers use data from more than one facility. VLT/VLTI: papers using data generated by VLT and VLTI instruments, including visitor instruments for which observing time is recommended by the ESO Observing Programmes Committee (OPC), for example, ULTRACAM and PIONIER. La Silla: papers using data from La Silla facilities, including visitor instruments (for example, ULTRACAM). Papers based on data from non-ESO telescopes or observations obtained during reserved periods (for example, national allocations of time) are not included. Survey telescopes: papers using data from ESO's survey telescopes VISTA and VST. APEX: papers using APEX data, including visitor instruments for which observing time is recommended by the ESO OPC (for example, Z-Spec). ALMA: papers using data generated by ALMA. For APEX and ALMA, only papers based (entirely or partly) during ESO time are included.



Detailed Information

Author(s)	Laporte, Nicolas; Nakajima, Kimihiko; Ellis, Richard S.; Zitrin, Adi; Stark, Daniel P.; Mainali, Ramesh; Roberts-Borsani, G. W.
Title	**A Spectroscopic Search for AGN Activity in the Reionization Era**
Keywords	stars: formation, early universe, galaxies: distances and redshifts, galaxies: evolution, galaxies: formation, infrared: galaxies
Abstract	show abstract
Publication details	ApJ, 2017, vol. 851, p. 40-
BibCode	2017ApJ...851...40L
Fulltext (via ADS)	ADS
DOI	10.3847/1538-4357/aa96a8
Citations (from ADS)	7 Altmetric 1
Instruments and Observing Programmes used:	
VIRCAM (VISTA / Paranal)	
179.A-2005 (access to raw data and data products), UltraVISTA survey	
XSHOOTER (VLT / Paranal)	
097.A-0043 (access to raw data)	
Other tags	Archive + PI

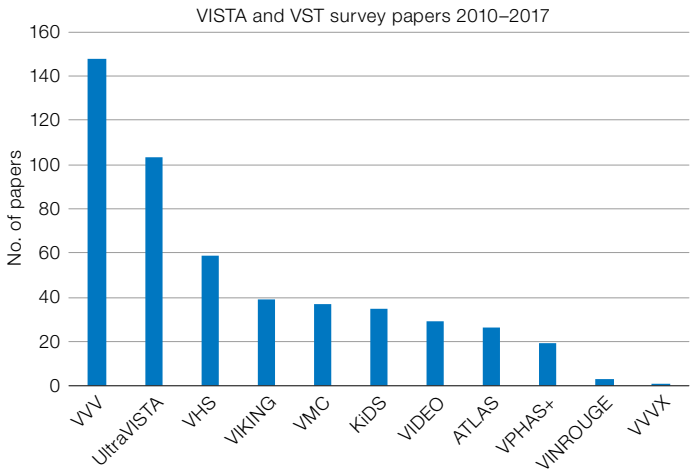
Revised layout and new features of telbib records, including ORCID icons that link to the author's profile page, direct links to raw data and data products in the ESO Science Archive, and icons that provide access to instrument information.

Publications from different sites

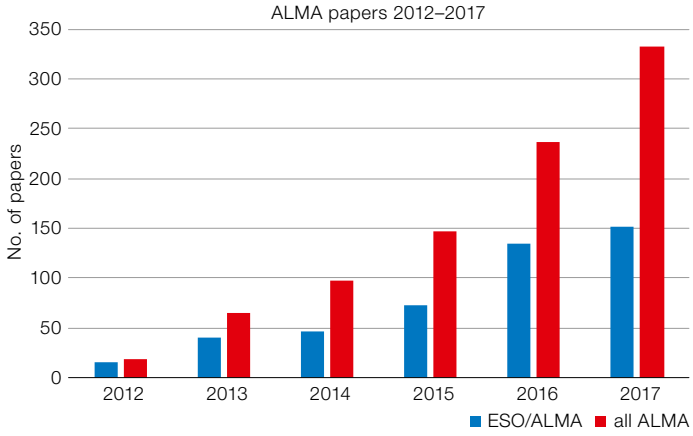
The VLT and VLTI contributed data to 630 refereed papers in 2017, surpassing the previous high of 616 papers in 2012. The second-generation VLT instrument X-shooter had been unavailable to the community for some time during Periods 97 and 98 for technical upgrades, but after returning to normal operations it quickly resumed its high level of productivity, with 103 papers in 2017 — an increase of over 50% compared to 2016. The newer second-generation instrument, MUSE, showed an even steeper increase, producing 77 papers in 2017, which is more than in the three preceding years and an increase of more than 60%. Using data from VIMOS on UT3, the public spectroscopic survey called VANDELS — a deep VIMOS survey of the CANDELS fields (UKIDSS Ultra Deep Survey field and Chandra Deep Field South) published its first science paper. On the VLTI, the first seven papers using the second-generation instrument GRAVITY were published.

ESO's survey telescopes, VISTA and the VST, provided data for a total of 152 papers in 2017. The productivity of the VST increased remarkably, resulting in 55 papers, three times more than were published in the previous year (18 in 2016). A slight increase in the use of archival data was noted for these telescopes. The vast majority of VISTA and VST data papers published between 2010 and 2017 (456 out of 510, i.e. 89%) deployed data obtained through the ongoing public surveys. Papers using data from two of the second-generation VISTA public surveys (VIsta Near-infraRed Observations Unveiling Gravitational wave Events [VINROUGE] and the extended VISTA Variables in the Via Lactea survey [VVVX]) appeared in 2017. The publication statistics per survey are in the upper bar chart.

La Silla facilities are doing remarkably well. An increasing number of telescopes, such as the MPG/ESO 2.2-metre telescope, the Swiss 1.2-metre Leonhard Euler Telescope, and the Danish 1.54-metre telescope, are hosted but not run by ESO, and their papers are not included in the ESO bibliography. Nevertheless the site provided data for nearly 230 refereed papers in 2017. HARPS continues to be outstanding, producing 97 papers in 2017, with the ESO Faint Object Spectrograph and Camera 2 (EFOSC2) and the Fibre-fed Extended Range Optical Spectrograph (FEROS) producing 55 and 40 papers, respectively.



Refereed papers using VISTA or VST Public Survey data between 2010–2017. Papers can use data from more than one survey.



Refereed publications per year based on ESO ALMA time compared to all of ALMA.

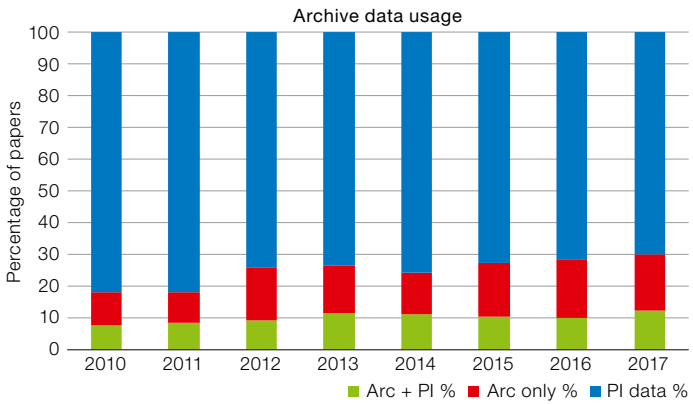
APEX has generated more than 600 data papers since 2006, using observing time from all APEX partners; the Max Planck Institute for Radio Astronomy (MPIfR) has 50% observing time, the Onsala Space Observatory (OSO) has 23% and ESO has 27%. Almost 60% of APEX papers used at least some data obtained during ESO time.

ALMA is a partnership between ESO, East Asia, and North America, in cooperation with the Republic of Chile. Using data from all partners, the ALMA users community published more than 330 papers in 2017, bringing the total number of papers to almost 900 (since 2012). More than half of these papers involved data taken during the European ALMA time. The number of ALMA data papers per year are shown in the lower bar chart.

The ALMA bibliography is maintained jointly by the librarians at ESO and the National Radio Astronomy Observatory (NRAO) in the USA as well as by the National Astronomical Observatory of Japan (NAOJ). Publications based on data from all ALMA partners are recorded in telbib, but only those based on European observing time are counted in the ESO statistics, unless otherwise noted.

ESO Science Archive Facility

The ESO Science Archive Facility contains data from ESO telescopes and makes them available to the astronomy community. PIs of successful observing proposals have exclusive access to their scientific data for the duration of a



Percentage of papers using data obtained by the team of authors (PI data), obtained entirely from the ESO Science Archive (Arc only), or partly obtained by the team and from the Archive (Arc + PI) for the publication years 2010–2017.

proprietary period, normally one year, after which the data become available to the community at large. In addition to raw data, the archive also provides various types of data products. The fraction of ESO data papers that deploy archival data, either exclusively or in conjunction with data obtained by the authors, has been around 25% since 2012. In 2017, an increased fraction of almost 30% of the data papers used archival observations, emphasising the importance of the ESO Science Archive Facility for the Organisation's research data infrastructure. The distribution of papers using PI data, archival data, or a combination of both (Archive + PI data) for the years 2010 to 2017 are shown in the bar chart.

The statistics presented here are derived from the ESO Telescope Bibliography (telbib), a database of refereed papers published by the ESO users community that links publications with the data in the ESO Science Archive. telbib is developed and maintained by the ESO Library. It is compiled by scanning articles published in the major astronomical journals for ESO-related keywords (for example, telescope and instrument names). Journals routinely screened for ESO-related keywords are: *A&A*, *A&ARv*, *AJ*, *ApJ*, *ApJS*, *AN*, *ARA&A*, *EM&P*, *ExA*, *Icar*, *MNRAS*, *Nature*, *NewA*, *NewAR*, *PASJ*, *PASP*, *P&SS*, and *Science*. All papers included in the database have been inspected visually by the curators to ensure that they directly use ESO observational data. Further information about telbib and various statistics and reports can be found on the web (http://www.eso.org/sci/libraries/telbib_info.html).

Access to records of all 2017 data papers written by the ESO users community is available at http://telbib.eso.org/ESODataPapers2017.php. A separate listing of refereed publications by ESO scientists with or without use of ESO data can be found at http://www.eso.org/sci/libraries/telbib_info/AR/ESOStaffPapers2017.pdf.

ESO/J. Walsh

The planetary nebula NGC 7009 (the Saturn Nebula) captured by MUSE on the VLT.