



# 天文学文献摘要简报

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内部资料

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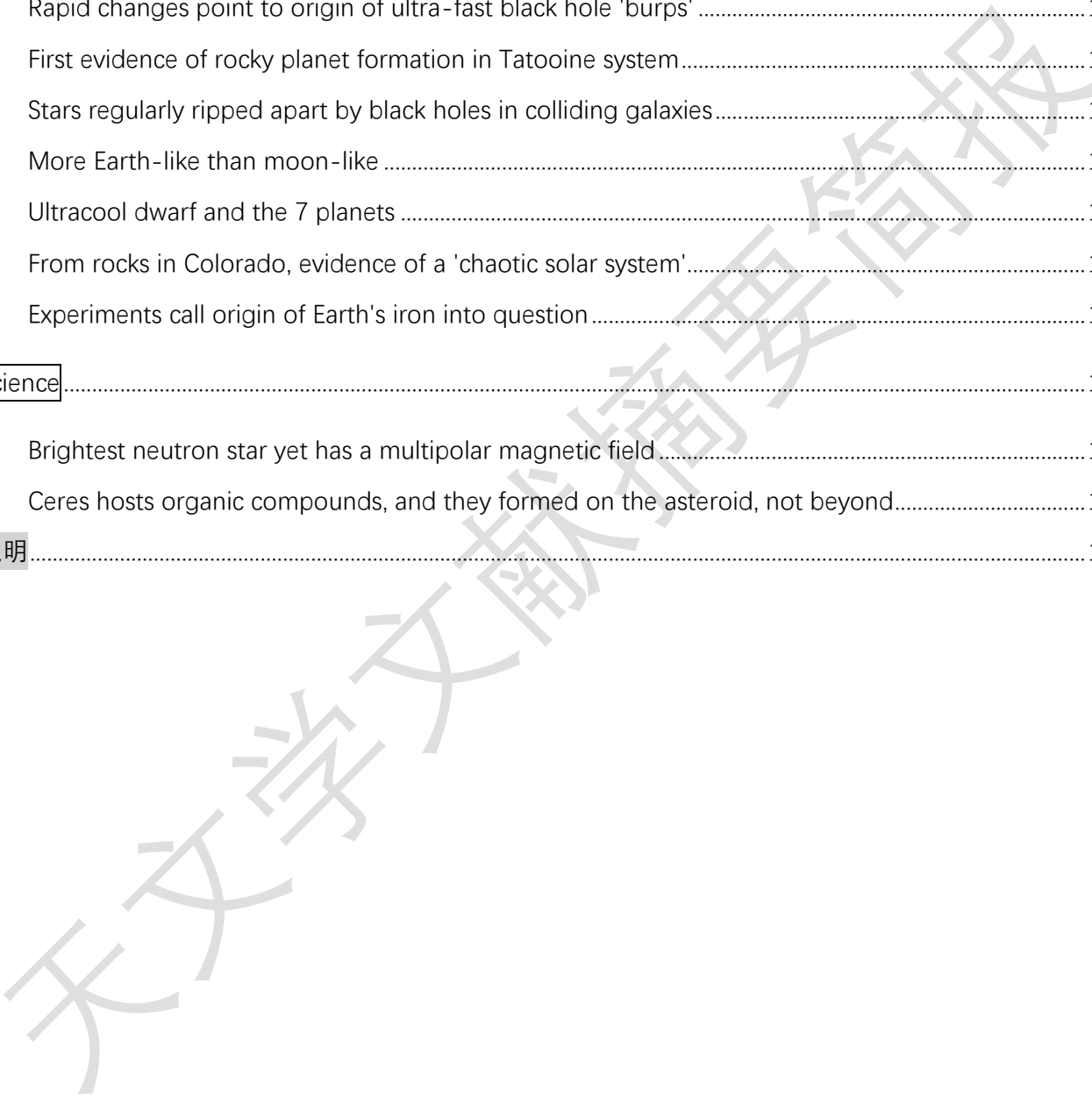


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## 星系与宇宙学

### Hubble dates black hole's last big meal

**ABSTRACT:** This beautiful Hubble image reveals a young super star cluster known as Westerlund 1, only 15,000 light-years away in our Milky Way neighborhood, yet home to one of the largest stars ever discovered.

**PUBLISHED:** "MAPPING THE NUCLEAR OUTFLOW OF THE MILKY WAY: STUDYING THE KINEMATICS AND SPATIAL EXTENT OF THE NORTHERN FERMI BUBBLE". The Astrophysical Journal, Volume 834, Number 2, 2017

**DOI:** 10.3847/1538-4357/834/2/191

**PUBLIC RELEASE:** 9-MAR-2017

**URL:** <https://www.nasa.gov/feature/goddard/2017/hubble-dates-black-holes-last-big-meal>

### New survey finds 'Peter Pan' radio galaxies that may never grow up

**ABSTRACT:** A team of astronomers has doubled the number of known young, compact radio galaxies -- galaxies powered by newly energized black holes. The improved tally will help astronomers understand the relationship between the size of these radio sources and their age, as well as the nature of the galaxy itself. In particular, it will help astronomers understand why there are so many more young radio galaxies than old.

**PUBLISHED:** "Extragalactic Peaked-spectrum Radio Sources at Low Frequencies", The Astrophysical Journal, Volume 836, Number 2, 2017

**DOI:** [doi.org/10.3847/0004-637X/836/2/174/data](https://doi.org/10.3847/0004-637X/836/2/174/data)

**PUBLIC RELEASE:** 8-MAR-2017

**URL:** <http://www.dunlap.utoronto.ca/new-survey-finds-peter-pan-radio-galaxies-that-may-never-grow-up>

### Revealing the origin and nature of the outskirts of stellar megalopolises

**ABSTRACT:** This is the most detailed study of the outskirts of massive elliptical galaxies at half the age of the



Universe and contributes to the understanding of how the largest galaxies of the Universe evolved over time.

**PUBLISHED:** "The cosmic assembly of stellar haloes in massive early-type Galaxies", Mon Not R Astron Soc (2017) 466 (4): 4888-4903.

**DOI:** <https://doi.org/10.1093/mnras/stw3382>

**PUBLIC RELEASE:** 6-MAR-2017

**URL:** <http://www.iac.es/divulgacion.php?op1=16&id=1166&lang=en>

## Yale-led team puts dark matter on the map

**ABSTRACT:** A Yale-led team has produced one of the highest-resolution maps of dark matter ever created, offering a detailed case for the existence of cold dark matter -- sluggish particles that comprise the bulk of matter in the universe.

**FUNDER:** National Science Foundation, Science and Technology Facilities Council, Space Telescope Institute HST Frontier Fields initiative

**PUBLISHED:** "Mapping substructure in the HST Frontier Fields cluster lenses and in cosmological simulations", Mon Not R Astron Soc stw3385, 2017.

**DOI:** <https://doi.org/10.1093/mnras/stw3385>

**PUBLIC RELEASE:** 1-MAR-2017

**URL:** <http://scitechdaily.com/astrophysicists-produce-high-resolution-map-of-dark-matter/>

## Scientists reach back in time to discover some of the most power-packed galaxies

**ABSTRACT:** When the universe was young, a supermassive black hole heaved out a jet of particle-infused energy that raced through space at nearly the speed of light. Billions of years later, a trio of Clemson University scientists has identified this black hole and four others similar to it that range in age from 1.4 billion to 1.9 billion years old.

**PUBLISHED:** "Gamma-Ray Blazars within the First 2 Billion Years", The Astrophysical Journal Letters, Volume 837, Number 1, 2017

**DOI:** <http://dx.doi.org/10.3847/2041-8213/aa5fff>

**PUBLIC RELEASE:** 27-FEB-2017



**URL:**<http://newsstand.clemson.edu/mediarelations/scientists-reach-back-in-time-to-discover-some-of-the-most-power-packed-galaxies/>

## NASA's fermi finds possible dark matter ties in andromeda galaxy

**ABSTRACT:** NASA's Fermi Gamma-ray Space Telescope has found a signal at the center of the neighboring Andromeda galaxy that could indicate the presence of the mysterious stuff known as dark matter. The gamma-ray signal is similar to one seen by Fermi at the center of our own Milky Way galaxy.

**FUNDER:** NASA

**PUBLISHED:** "Observations of M31 and M33 with the Fermi Large Area Telescope: A Galactic Center Excess in Andromeda?", The Astrophysical Journal, Volume 836, Number 2

**DOI:** 10.3847/1538-4357/aa5c3d

**PUBLIC RELEASE:** 21-FEB-2017

**URL:**<https://www.nasa.gov/feature/goddard/2017/nasas-fermi-finds-possible-dark-matter-ties-in-andromeda-galaxy>

## Changes of supermassive black hole in the center of NGC 2617 galaxy

**ABSTRACT:** Scientists have been studying changes in the appearance of emission from around the supermassive black hole in the center of a galaxy known to astronomers as NGC 2617.

**PUBLISHED:** "The curtain remains open: NGC 2617 continues in a high state", Mon Not R Astron Soc (2017) 467 (2): 1496-1504.

**DOI:** 10.1093/mnras/stx149

**PUBLIC RELEASE:** 20-FEB-2017

**URL:**<https://academic.oup.com/mnras/article-abstract/467/2/1496/2929277/The-curtain-remains-open-NGC-2617-continues-in-a?redirectedFrom=fulltext>



## CWRU research team finds radial acceleration relation in all common types of galaxies

**ABSTRACT:** The distribution of normal matter precisely determines gravitational acceleration in all common types of galaxies, a team led by Case Western Reserve University researchers reports. This provides further support that the relation is tantamount to a new natural law, the researchers say.

**PUBLISHED:** "One Law to Rule Them All: The Radial Acceleration Relation of Galaxies", *The Astrophysical Journal*, 836:152 (23pp), 2017 February 20

**DOI:** 10.3847/1538-4357/836/2/152

**PUBLIC RELEASE:** 16-FEB-2017

**URL:** <https://phys.org/news/2017-02-team-radial-common-galaxies.html>

## 恒星与银河系

### Iota Orionis: Pulsating beacon of a constellation

**ABSTRACT:** Using the world's smallest astronomical satellites, researchers detect the biggest stellar heartbeat ever.

**FUNDER:** Natural Science and Engineering Research Council of Canada, Fonds de recherche Nature et technologies du Québec, National Science Centre, National Science Foundation, Lee DuBridge Fellowship

**PUBLISHED:** "The most massive heartbeat: an in-depth analysis of  $\iota$  Orionis", *Mon Not R Astron Soc* (2017) 467 (2): 2494-2503.

**DOI:** <https://doi.org/10.1093/mnras/stx207>

**PUBLIC RELEASE:** 8-MAR-2017

**URL:** [https://www.eurekalert.org/pub\\_releases/2017-03/uom-iop030717.php](https://www.eurekalert.org/pub_releases/2017-03/uom-iop030717.php)

### Ancient stardust sheds light on the first stars

**ABSTRACT:** Astronomers have used ALMA to detect a huge mass of glowing stardust in a galaxy seen when the Universe was only four percent of its present age. This galaxy was observed shortly after its formation and is the most distant galaxy in which dust has been detected. This observation is also the most distant



detection of oxygen in the Universe. These new results provide brand-new insights into the birth and explosive deaths of the very first stars.

**PUBLISHED:** eso1708 — Science Release

**PUBLIC RELEASE:** 8-MAR-2017

**URL:** <http://www.eso.org/public/news/eso1708/>

## Cosmic environments and their influence in star formation

**ABSTRACT:** In a joint collaboration between the California Institute of Technology and the University of California, Riverside, astronomers have performed an extensive study of the properties of galaxies within filaments formed at different times during the age of the universe.

**FUNDER:** NASA

**PUBLISHED:** “Cosmic Web of Galaxies in the COSMOS Field: Public Catalog and Different Quenching for Centrals and Satellites”, The Astrophysical Journal, Volume 837, Number 1

**DOI:** <https://doi.org/10.3847/1538-4357/837/1/16>

**PUBLIC RELEASE:** 6-MAR-2017

**URL:** <https://ucrtoday.ucr.edu/45084>

## A new look at the nature of dark matter

**ABSTRACT:** A new study suggests that the gravitational waves detected by the LIGO experiment must have come from black holes generated during the collapse of stars, and not in the earliest phases of the Universe.

**PUBLISHED:** “Limits on the Mass and Abundance of Primordial Black Holes from Quasar Gravitational Microlensing”, The Astrophysical Journal Letters, Volume 836, Number 2, 2017.

**DOI:** <https://doi.org/10.3847/2041-8213/aa5dab>

**PUBLIC RELEASE:** 6-MAR-2017

**URL:** <http://www.iac.es/divulgacion.php?op1=16&id=1167&lang=en>





## Star clusters discovery could upset the astronomical applecart

**ABSTRACT:** The discovery of young stars in old star clusters could send scientists back to the drawing board for one of the Universe's most common objects. By cross-matching the locations of several thousand young stars with the locations of stellar clusters in neighboring galaxy, the researchers found 15 stellar candidates that were much younger than other stars within the same cluster.

**PUBLISHED:** "A discovery of young stellar objects in older clusters of the Large Magellanic Cloud", Mon Not R Astron Soc Lett (2017) 468 (1): L11-L15, 2017.

**DOI:** <https://doi.org/10.1093/mnrasl/slx015>

**PUBLIC RELEASE:** 6-MAR-2017

**URL:** [https://www.eurekalert.org/pub\\_releases/2017-03/icfr-scd030517.php](https://www.eurekalert.org/pub_releases/2017-03/icfr-scd030517.php)

## Tune your radio: galaxies sing when forming stars

**ABSTRACT:** A team led from the Instituto de Astrofísica de Canarias (IAC) has found the most precise way ever to measure the rate at which stars form in galaxies using their radio emission at 1-10 Gigahertz frequency range.

**PUBLISHED:** "The radio spectral energy distribution and star formation rate calibration in galaxies", by F. Tabatabaei et al. The Astrophysical Journal. Volume 836, Number 2.

**PUBLIC RELEASE:** 21-FEB-2017

**DOI:** 10.3847/1538-4357/836/2/185

**URL:** <http://www.iac.es/divulgacion.php?op1=16&id=1163&lang=en>

## Star discovered in closest known orbit around black hole

**ABSTRACT:** Astronomers have found evidence for a star that whips around a black hole about twice an hour. This may be the tightest orbital dance ever witnessed for a black hole and a companion star.

**PUBLISHED:** "The ultracompact nature of the black hole candidate X-ray binary 47 Tuc X9", Mon Not R Astron Soc (2017) 467 (2): 2199-2216.

**PUBLIC RELEASE:** 13-MAR-2017

**URL:** <http://go.msu.edu/k9y>



## 太阳系和系外行星系统

### Earth is bombarded at random

**ABSTRACT:** Asteroids don't hit our planet at regular intervals, as was previously thought. Earth scientists from ETH Zurich and Lund University in Sweden have reached this conclusion after analyzing impact craters formed in the last 500 million years, concentrating on precisely dated events.

**PUBLISHED:** "A tale of clusters: no resolvable periodicity in the terrestrial impact cratering record". Mon Not R Astron Soc (2017) 467 (3): 2545-2551.

**DOI:** <https://doi.org/10.1093/mnras/stx211>

**PUBLIC RELEASE:** 7-MAR-2017

**URL:** <https://www.ethz.ch/en/news-and-events/eth-news/news/2017/03/earth-is-bombarded-at-random.html>

### Volcanic hydrogen spurs chances of finding exoplanet life

**ABSTRACT:** Hunting for habitable exoplanets now may be easier: Cornell University astronomers report that hydrogen pouring from volcanic sources on planets throughout the universe could improve the chances of locating life in the cosmos.

**PUBLISHED:** "A Volcanic Hydrogen Habitable Zone", The Astrophysical Journal Letters, vol. 837:L4

**DOI:** 10.3847/2041-8213/aa60c8

**PUBLIC RELEASE:** 27-FEB-2017

**URL:** <http://www.news.cornell.edu/stories/2017/02/volcanic-hydrogen-spurs-chances-finding-exoplanet-life>

### Spontaneous 'dust traps': Astronomers discover a missing link in planet formation

**ABSTRACT:** Planets are thought to form in the disks of dust and gas found around young stars. But astronomers have struggled to assemble a complete theory of their origin that explains how the initial dust develops into planetary systems. A French-UK-Australian team now think they have the answer, with their



simulations showing the formation of 'dust traps' where pebble-sized fragments collect and stick together, to grow into the building blocks of planets.

**PUBLISHED:**" Self-induced dust traps: overcoming planet formation barriers", Mon Not R Astron Soc (2017) 467 (2): 1984-1996.

**DOI:** <http://dx.doi.org/10.1093/mnras/stx016>

**PUBLIC RELEASE:** 27-FEB-2017

**URL:**<http://www.ras.org.uk/ras>

## Saturn's rings viewed in the mid-infrared show bright Cassini Division

**ABSTRACT:** Researchers has succeeded in measuring the brightnesses and temperatures of Saturn's rings using the mid-infrared images taken by the Subaru Telescope in 2008. They reveal that, at that time, the Cassini Division and the C ring were brighter than the other rings in the mid-infrared light and that the brightness contrast appeared to be the inverse of that seen in the visible light. The data give important insights into the nature of Saturn's rings.

**FUNDER:** Japan Society for the Promotion of Science KAKENHI

**PUBLISHED:**" Seasonal variation of the radial brightness contrast of Saturn's rings viewed in mid-infrared by Subaru/COMICS\*", Volume 599 (March 2017) A&A, 599 (2017) A29

**DOI:** 10.1051/0004-6361/201527529

**PUBLIC RELEASE:** 23-FEB-2017

**URL:** <http://subarutelescope.org/Pressrelease/2017/02/23/index.html>

## Vast luminous nebula poses a cosmic mystery

**ABSTRACT:** Astronomers have found an enormous, glowing blob of gas in the distant universe, with no obvious source of power for the light it is emitting. Called an 'enormous Lyman-alpha nebula' (ELAN), it is the brightest and among the largest of these rare objects, only a handful of which have been observed.

**FUNDER:** National Science Foundation, NASA

**PUBLISHED:**" Discovery of an Enormous Ly $\alpha$  nebula in a massive galaxy overdensity at  $z=2.3$ ", The Astrophysical Journal, arXiv:1609.04021

**DOI:** 10.3847/1538-4357/aa5d14



**PUBLIC RELEASE:** 23-FEB-2017

**URL:** <http://www.ucsc.edu/>

## New data about 2 distant asteroids give a clue to the possible 'Planet Nine'

**ABSTRACT:** The dynamical properties of these asteroids, observed spectroscopically for the first time using the Gran Telescopio CANARIAS, suggest a possible common origin and give a clue to the existence of a planet beyond Pluto, the so-called 'Planet Nine.'

**PUBLISHED:** "Visible spectra of (474640) 2004 VN112–2013 RF98 with OSIRIS at the 10.4 m GTC: evidence for binary dissociation near aphelion among the extreme trans-Neptunian objects", Mon Not R Astron Soc Lett (2017) 467 (1): L66-L70.

**DOI:** 10.1093/mnrasl/slx003

**PUBLIC RELEASE:** 21-FEB-2017

**URL:** <http://www.iac.es/divulgacion.php?op1=16&id=1162&lang=en>

## 天文技术方法和仪器

### First public data released by hyper supprime-cam Subaru Strategic Program

**ABSTRACT:** First massive data set of a 'cosmic census' has been released using the largest digital camera on the Subaru Telescope.

**PUBLISHED:** "First Data Release of the Hyper Suprime-Cam Subaru Strategic Program", arXiv:1702.08449, Publ. Astron. Soc. Japan

**DOI:** 10.1093/pasj/xxx000

**PUBLIC RELEASE:** 7-MAR-2017

**URL:** [http://www.ipmu.jp/en/20170228-HSC\\_datarelease](http://www.ipmu.jp/en/20170228-HSC_datarelease)



## Probing seven worlds with NASA's James Webb Space Telescope

**ABSTRACT:** With the discovery of seven earth-sized planets around the TRAPPIST-1 star 40 light years away, astronomers are looking to the upcoming James Webb Space Telescope to help us find out if any of these planets could possibly support life.

**FUNDER:** NASA

**PUBLIC RELEASE:** 2-MAR-2017

**URL:**<https://www.nasa.gov/feature/goddard/2017/probing-seven-worlds-with-nasas-james-webb-space-telescope>

## Neural networks promise sharpest ever images

**ABSTRACT:** Telescopes, the workhorse instruments of astronomy, are limited by the size of the mirror or lens they use. Using 'neural nets', a form of artificial intelligence, a group of Swiss researchers now have a way to push past that limit, offering scientists the prospect of the sharpest ever images in optical astronomy. The new work appears in a paper in Monthly Notices of the Royal Astronomical Society.

**PUBLISHED:** "Generative adversarial networks recover features in astrophysical images of galaxies beyond the deconvolution limit", Mon Not R Astron Soc Lett (2017) 467 (1): L110-L114.

**DOI:** 10.1093/mnrasl/slx008

**PUBLIC RELEASE:** 22-FEB-2017

**URL:** [http://www.spacedaily.com/reports/Neural\\_networks\\_promise\\_sharpest\\_ever\\_images\\_999.html](http://www.spacedaily.com/reports/Neural_networks_promise_sharpest_ever_images_999.html)

## 'Gravitational noise' interferes with determining the coordinates of distant sources

**ABSTRACT:** A group of Russian astrophysicists from the Astro Space Center (ASC) of P.N. Lebedev Physical Institute, the Space Research Institute of the RAS, MIPT, and the Max-Planck-Institut fuer Astrophysik (Germany) attempted to improve the accuracy of implementing the coordinate reference system. But they reached a limitation that cannot be bypassed by improving the accuracy of the detecting instruments because, as they found out, the deviation depends on gravitational.



**PUBLISHED:** "INFLUENCE OF THE GALACTIC GRAVITATIONAL FIELD ON THE POSITIONAL ACCURACY OF EXTRAGALACTIC SOURCES", The Astrophysical Journal, Volume 835, Number 1, 2017

**DOI:** 10.3847/1538-4357/835/1/51

**PUBLIC RELEASE:** 20-FEB-2017

**URL:** [https://mipr.ru/english/news/gravitational\\_noise\\_interferes\\_with\\_determining\\_the\\_coordinates\\_of\\_distant\\_sources](https://mipr.ru/english/news/gravitational_noise_interferes_with_determining_the_coordinates_of_distant_sources)

## New research on northern lights will improve satellite navigation accuracy

**ABSTRACT:** Researchers at the University of Bath have gained new insights into the mechanisms of the northern lights, providing an opportunity to develop better satellite technology that can negate outages caused by this natural phenomenon.

**PUBLISHED:** "Identification of scintillation signatures on GPS signals originating from plasma structures detected with EISCAT incoherent scatter radar along the same line of sight", Journal of Geophysical Research - Space Physics, Volume 122, Issue 1, January 2017 Pages 916-931

**DOI:** 10.1002/2016JA023271

**PUBLIC RELEASE:** 13-MAR-2017

**URL:** <http://www.bath.ac.uk/research/news/2017/03/13/new-research-on-northern-lights-will-improve-satellite-navigation-accuracy>

文章推荐

Nature

## Rapid changes point to origin of ultra-fast black hole 'burps'

**ABSTRACT:** Scientists have made the most detailed observation yet of a black hole outflow, from the active galaxy IRAS 13224-3809. The outflow's temperature changed on time scales of less than an hour -- **hundreds** of times faster than ever seen before. The rapid fluctuations in the outflow's temperature also



indicated that the outflow was responding to X-ray emissions from the accretion disk, a dense zone of gas and other materials that surrounds the black hole.

**FUNDER:** NASA, European Space Agency, European Research Council, European Union Seventh Framework Programme, and United Kingdom Science and Technology Facilities Council

**PUBLISHED:** "Relativistically outflowing gas responds to the inner accretion disk of a black hole," Nature 02/03/17

**DOI:** 10.1038/nature21385

**PUBLIC RELEASE:** 1-MAR-2017

**URL:** [https://www.eurekalert.org/pub\\_releases/2017-03/uom-rcp030117.php](https://www.eurekalert.org/pub_releases/2017-03/uom-rcp030117.php)

## First evidence of rocky planet formation in Tatooine system

**ABSTRACT:** Evidence of planetary debris surrounding a double sun, 'Tatooine-like' system has been found for the first time by a UCL-led team of researchers.

**FUNDER:** Science and Technology Facilities Council, European Research Council

**PUBLISHED:** "A circumbinary debris disk in a polluted white dwarf system", Nature Astronomy 1, Article number: 0032 (2017)

**DOI:** 10.1038/s41550-016-0032

**PUBLIC RELEASE:** 27-FEB-2017

**URL:** [http://www.ucl.ac.uk/star/astro\\_news/firstevidencerockyplanetformationtatooinesystem](http://www.ucl.ac.uk/star/astro_news/firstevidencerockyplanetformationtatooinesystem)

## Stars regularly ripped apart by black holes in colliding galaxies

**ABSTRACT:** Astronomers based at the University of Sheffield have found evidence that stars are ripped apart by supermassive black holes 100 times more often than previously thought.

**PUBLISHED:** "A tidal disruption event in the nearby ultra-luminous infrared galaxy F01004-2237", Nature Astronomy 1, Article number: 0061 (2017)

**DOI:** 10.1038/s41550-017-0061

**PUBLIC RELEASE:** 27-FEB-2017

**URL:** <http://www.sheffield.ac.uk/physics/news/tidal-disruption-1.684778>



## More Earth-like than moon-like

**ABSTRACT:** Mars' mantle may be more complicated than previously thought. In a new study published today in the Nature-affiliated journal Scientific Reports, researchers at LSU document geochemical changes over time in the lava flows of Elysium, a major martian volcanic province.

**PUBLISHED:** "A record of igneous evolution in Elysium, a major martian volcanic province", Scientific Reports 7, Article number: 43177 (2017)

**DOI:** 10.1038/srep43177

**PUBLIC RELEASE:** 24-FEB-2017

**URL:** <http://lsuscienceblog.squarespace.com/blog/2017/2/21/more-earth-like-than-moon-like>

## Ultracool dwarf and the 7 planets

**ABSTRACT:** Astronomers have found a system of seven Earth-sized planets just 40 light-years away. They were detected as they passed in front of their parent star, the dwarf star TRAPPIST-1. Three of them lie in the habitable zone and could harbor water, increasing the possibility that the system could play host to life. It has both the largest number of Earth-sized planets yet found and the largest number of worlds that could support liquid water.

**PUBLISHED:** "Seven temperate terrestrial planets around the nearby ultracool dwarf star TRAPPIST-1", Nature, 542, 456-460 (23 Feb. 2017)

**DOI:** 10.1038/nature21360

**PUBLIC RELEASE:** 22-FEB-2017

**URL:** <http://www.eso.org/public/news/eso1706/>

## From rocks in Colorado, evidence of a 'chaotic solar system'

**ABSTRACT:** Plumbing a 90 million-year-old layer cake of sedimentary rock in Colorado, a team of scientists from the University of Wisconsin-Madison and Northwestern University has found evidence confirming a critical theory of how the planets in our solar system behave in their orbits around the sun. The finding, published Feb. 23, 2017 in the journal Nature, is important because it provides the first hard proof





**PUBLISHED:** "Theory of chaotic orbital variations confirmed by Cretaceous geological evidence",

**PUBLIC RELEASE:** 22-FEB-2017, Nature 542, 468–470 (23 February 2017)

**DOI:** 10.1038/nature21402

**URL:** <http://news.wisc.edu/from-rocks-in-colorado-evidence-of-a-chaotic-solar-system/>

## Experiments call origin of Earth's iron into question

**ABSTRACT:** New research from The University of Texas at Austin reveals that the Earth's unique iron composition isn't linked to the formation of the planet's core, calling into question a prevailing theory about the events that shaped our planet during its earliest years.

**FUNDER:** National Science Foundation, Center for High Pressure Science and Technology Advanced Research, NASA, French National Research Agency, Consortium for Materials Properties Research in Earth Sciences.

**PUBLISHED:** "Iron isotopic fractionation between silicate mantle and metallic core at high pressure", Nature Communications 8, Article number: 14377 (2017)

**DOI:** 10.1038/ncomms14377

**PUBLIC RELEASE:** 20-FEB-2017

**URL:** <http://www.jsg.utexas.edu/news/2017/02/experiments-call-origin-of-earths-iron-into-question>

## Radiation from nearby galaxies helped fuel first monster black holes, says study

**ABSTRACT:** In a new study in Nature Astronomy, an international team of researchers shows how supermassive black holes may have formed in the early universe. They suggest that radiation from a neighboring galaxy could have shut down star-formation in a black-hole hosting galaxy, allowing the nascent black hole to rapidly put on weight.

**PUBLISHED:** "Rapid formation of massive black holes in close proximity to embryonic protogalaxies", Nature Astronomy 1, Article number: 0075 (2017)

**DOI:** 10.1038/s41550-017-0075

**PUBLIC RELEASE:** 13-MAR-2017

**URL:** [https://www.eurekalert.org/pub\\_releases/2017-03/cu-rf030917.php](https://www.eurekalert.org/pub_releases/2017-03/cu-rf030917.php)



## Science

### Brightest neutron star yet has a multipolar magnetic field

**ABSTRACT:** Scientists have identified a neutron star that is consuming material so fast it emits more x-rays than any other. Its extreme brightness can only be explained if the star has a complex multipolar magnetic field, the researchers say.

**PUBLISHED:** "An accreting pulsar with extreme properties drives an ultraluminous x-ray source in NGC 5907", Science 24 Feb 2017: Vol. 355, Issue 6327, pp. 817-819

**DOI:** 10.1126/science.aai8635

**PUBLIC RELEASE:** 21-FEB-2017

**URL:** <https://www.sciencedaily.com/releases/2017/02/170221161532.htm>

### Ceres hosts organic compounds, and they formed on the asteroid, not beyond

**ABSTRACT:** Aliphatic organic compounds -- carbon-based building blocks that may have a role in the chemistry that creates life -- have been detected for the first time on Ceres, an asteroid and dwarf planet, a new study reveals.

**PUBLISHED:** "Localized aliphatic organic material on the surface of Ceres", Science 17 Feb 2017: Vol. 355, Issue 6326, pp. 719-722

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## 说明

根据天文学十三五规划，天文领域分类如下：

- 1. 恒星与银河系：包含星系介质与恒星形成、恒星结构与演化、致密天体、银河系



- ✦ 2.星系宇宙学；暗物质、暗能量、黑洞
- ✦ 3.天文技术方法和仪器：包含光学红外天文技术、射电天文技术、空间天文技术
- ✦ 4.太阳系和系外行星系统；
- ✦ 5.太阳物理；
- ✦ 6.基本天文：包含天体测量、天体力学、时间频率、相对论基本天文学、基本天文学应用（深空探测与导航、天文地球动力学）

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