

# 天文学文献摘要简报

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## What's on the surface of a black hole?

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/osu-wot061615.php](http://www.eurekalert.org/pub_releases/2015-06/osu-wot061615.php)

摘要: (Ohio State University) New research in theoretical physics shows that black holes aren't the ruthless killers we've made them out to be, but instead benign -- if imperfect -- hologram generators.

日期: 2015-06-17

## Lost in space

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/eic-lis061015.php](http://www.eurekalert.org/pub_releases/2015-06/eic-lis061015.php)

摘要: (ESA/Hubble Information Centre) Although the Universe may seem spacious most galaxies are clumped together in groups or clusters and a neighbor is never far away. But this galaxy, known as NGC 6503, has found itself in a lonely position, shown here at the edge of a strangely empty patch of space called the Local Void. This new NASA/ESA Hubble Space Telescope image shows a very rich set of colors, adding to the detail seen in previous images.

日期: 2015-06-11

## Lonely galaxy lost in space

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nsfc-lgl061015.php](http://www.eurekalert.org/pub_releases/2015-06/nsfc-lgl061015.php)

摘要: (NASA/Goddard Space Flight Center) Hubble saw this galaxy, known as NGC 6503 in a lonely position, at the edge of a strangely empty patch of space called the Local Void.

日期: 2015-06-11

## Nearby dwarf galaxy is home to luminous star cluster

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/afot-ng060915.php](http://www.eurekalert.org/pub_releases/2015-06/afot-ng060915.php)

摘要: (American Friends of Tel Aviv University) A team of Tel Aviv University and UCLA astronomers have discovered a remarkable cluster of more than a million young stars are forming in a hot, dusty cloud of molecular gases in a tiny galaxy very near our own. The star cluster is buried within a massive gas cloud dubbed Cloud D in the NGC 5253 dwarf galaxy, and, although it's a billion times brighter than our sun, is barely visible, hidden by its own hot gases and dust.

日期: 2015-06-10

## **ALMA uses natural telescope to image monstrous galaxy near the edge of the universe**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nion-au060815.php](http://www.eurekalert.org/pub_releases/2015-06/nion-au060815.php)

摘要: (National Institutes of Natural Sciences) For centuries cartographers were fond of depicting monsters along the edges of their maps. Now, researchers have depicted a monstrous galaxy near the edge of the charted universe with unprecedented detail using the Atacama Large Millimeter/submillimeter Array with the assistance of a natural telescope known as a gravitational lens. The team modeled the lensing effects and corrected for them to reveal the distribution of huge stellar cradles in the monstrous galaxy.

日期: 2015-06-09

## **US joins the world in a new era of research at the Large Hadron Collider**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/drnl-ujt060315.php](http://www.eurekalert.org/pub_releases/2015-06/drnl-ujt060315.php)

摘要: (DOE/Oak Ridge National Laboratory) Scientists at CERNs Large Hadron Collider started recording data from the highest-energy particle collisions achieved on Earth. This new data will enable an international collaboration to study the Higgs boson, search for dark matter and develop a more complete understanding of the laws of nature. Oak Ridge National Laboratory led an equipment upgrade for LHCs A Large Ion Collider Experiment, which aims to learn more about conditions of the early universe.

日期: 2015-06-04

## **Merging galaxies break radio silence**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/eic-mgb052815.php](http://www.eurekalert.org/pub_releases/2015-05/eic-mgb052815.php)

摘要: (ESA/Hubble Information Centre) In the most extensive survey of its kind ever conducted, a team of scientists have found an unambiguous link between the presence of supermassive black holes that power high-speed, radio-signal-emitting jets and the merger history of their host galaxies. The results lend significant weight to the case for jets being the result of merging black holes and will be presented in the Astrophysical Journal.

日期: 2015-05-29

## **New technique for isolating sunlight scattering could help illuminate Universes birth**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/uobc-ntf052615.php](http://www.eurekalert.org/pub_releases/2015-05/uobc-ntf052615.php)

摘要: (University of British Columbia) Astrophysicists have developed a new method for calculating the effect of Rayleigh scattering on photons, potentially allowing researchers to better understand the formation of the Universe.

日期: 2015-05-29

## **A bubbly cosmic celebration**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/e-abc052615.php](http://www.eurekalert.org/pub_releases/2015-05/e-abc052615.php)

摘要: (ESO) In the brightest region of the nebula RCW 34, gas is heated and expands through the surrounding cooler gas. Once the heated hydrogen reaches the borders of the gas cloud, it bursts outwards into the vacuum like the contents of an uncorked champagne bottle -- this process is referred to as champagne flow. But the young RCW 34 has more to offer; there seem to have been multiple episodes of star formation within the same cloud.

日期: 2015-05-28

## **Supernovas help clean galaxies**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/msu-sh052615.php](http://www.eurekalert.org/pub_releases/2015-05/msu-sh052615.php)

摘要: (Michigan State University) Recent research, led by Michigan State University astronomers, finds that the black holes located at the cores of galaxies launch fountains of charged particles, which can stir up gas throughout the galaxy and temporarily interrupt star formation. But unless something intervenes, the gas will eventually cool and start forming stars again.

日期: 2015-05-27

## **恒星与银河系**

## **Lab mimicry opens a window to the deep interiors of stars and planets**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/ci-lmo061115.php](http://www.eurekalert.org/pub_releases/2015-06/ci-lmo061115.php)

摘要: (Carnegie Institution) The matter that makes up distant planets and even-more-distant stars exists under extreme pressure and temperature conditions. This includes members of a family of seven elements called the noble gases, some of which -- such as helium and neon -- are household names. New work used laboratory techniques to mimic stellar and planetary conditions, and observe how noble gases behave under these conditions, in order to better understand the atmospheric and internal chemistry of these celestial objects.

日期: 2015-06-16

## **Most detailed view ever of star formation in the distant universe**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/e-mdv060515.php](http://www.eurekalert.org/pub_releases/2015-06/e-mdv060515.php)

摘要: (ESO) ALMAs Long Baseline Campaign has produced a spectacularly detailed image of a distant galaxy being gravitationally lensed. The image shows a magnified view of the galaxy's star-forming regions, the likes of which have never been seen before at this level of detail in a galaxy so remote. The new observations are far more detailed than those made using the NASA/ESA Hubble Space Telescope, and reveal star-forming clumps in the galaxy equivalent to giant versions of the Orion Nebula.

日期: 2015-06-09

## **Exiled stars explode far from home**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/uoc--ese060215.php](http://www.eurekalert.org/pub_releases/2015-06/uoc--ese060215.php)

摘要: (University of California - Berkeley) Astronomers usually discover supernovae within large galaxies, where a star explodes perhaps once a century. UC Berkeley astronomer Melissa Graham and her colleagues used the sharp imaging capability of the Hubble Space Telescope to confirm that three exploding stars found in the empty regions between galaxies in a cluster were in fact lonely supernovae unattached to any galaxy at all. They were probably ripped from their host galaxies eons ago and exploded far from home.

日期: 2015-06-06

## **How to weigh the Milky Way**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/cu-htw060215.php](http://www.eurekalert.org/pub_releases/2015-06/cu-htw060215.php)

摘要: (Columbia University) An international team of scientists led by Columbia University researcher Andreas Kupper used streams produced by dissolving globular clusters to measure the weight of our galaxy and determine the location of the sun within the Milky Way.

日期: 2015-06-03

## **太阳物理**

## **Researchers correlate rheumatoid arthritis and giant cell arteritis with solar cycles**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/dppl-rcr061515.php](http://www.eurekalert.org/pub_releases/2015-06/dppl-rcr061515.php)

摘要: (DOE/Princeton Plasma Physics Laboratory) A rare collaboration of physicists and medical researchers finds a correlation between rheumatoid arthritis and giant cell arteritis and solar cycles.

日期: 2015-06-16

## **New tool could predict large solar storms more than 24 hours in advance**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/icl-ntc060815.php](http://www.eurekalert.org/pub_releases/2015-06/icl-ntc060815.php)

摘要: (Imperial College London) Large magnetic storms from the Sun, which affect technologies such as GPS and utility grids, could soon be predicted more than 24 hours in advance.

日期: 2015-06-10

## **太阳系和系外行星系统**

### **Scientists find methane in Mars meteorites**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/ylu-sfm061615.php](http://www.eurekalert.org/pub_releases/2015-06/ylu-sfm061615.php)

摘要: (Yale University) An international team of researchers has discovered traces of methane in Martian meteorites, a possible clue in the search for life on the Red Planet.

日期: 2015-06-17

### **NASA sees Hurricane Carlos causing coastal complications**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nsfc-nsh061615.php](http://www.eurekalert.org/pub_releases/2015-06/nsfc-nsh061615.php)

摘要: (NASA/Goddard Space Flight Center) Hurricane Carlos has been crawling up the coast of southwestern Mexico, weakening and re-strengthening to hurricane force. NASAs Terra satellite captured an image of the hurricane as it continued to cause coastal complications for the residents of western Mexico.

日期: 2015-06-17

### **NASA sees Tropical Storm Bill making landfall in Texas**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nsfc-nst061615.php](http://www.eurekalert.org/pub_releases/2015-06/nsfc-nst061615.php)

摘要: (NASA/Goddard Space Flight Center) Tropical Storm Bill was making landfall at 11 a.m. CDT on Matagorda Island, Texas, on June 16 as NASA and NOAA satellites gathered data on the storm. At NASA a movie of Bills landfall was created using data from NOAAs GOES-East satellite. The center of Bill is expected to move inland over south-central Texas during the afternoon and night of June 16.

日期: 2015-06-17



## **NASA sees Tropical Storm Carlos hugging Mexicos west coast**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nsfc-nst061515.php](http://www.eurekalert.org/pub_releases/2015-06/nsfc-nst061515.php)

摘要: (NASA/Goddard Space Flight Center) Tropical Storm Carlos approached the southwestern coast of Mexico over the past weekend of June 13-14, and satellite imagery shows the storm continues to hug the coast.

日期: 2015-06-16

## **Satellite animation shows System 91L developing in the Gulf of Mexico**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nsfc-sas061515.php](http://www.eurekalert.org/pub_releases/2015-06/nsfc-sas061515.php)

摘要: (NASA/Goddard Space Flight Center) The National Hurricane Center is keeping a close eye on a developing tropical low pressure area in the south-central Gulf of Mexico. NOAAs GOES-East satellite provided imagery of the system, and an animation was created at NASA showing the development over two days. The system has a high chance for development into a tropical depression.

日期: 2015-06-16

## **Small thunderstorms may add up to massive cyclones on Saturn**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/miot-stm061515.php](http://www.eurekalert.org/pub_releases/2015-06/miot-stm061515.php)

摘要: (Massachusetts Institute of Technology) In a paper published today in the journal Nature Geoscience, atmospheric scientists at MIT propose a possible mechanism for Saturns polar cyclones: over time, small, short-lived thunderstorms across the planet may build up angular momentum, or spin, within the atmosphere -- ultimately stirring up a massive and long-lasting vortex at the poles.

日期: 2015-06-16

## **NASA's Hubble Telescope detects 'sunscreen' layer on distant planet**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nsfc-nht061115.php](http://www.eurekalert.org/pub_releases/2015-06/nsfc-nht061115.php)

摘要: (NASA/Goddard Space Flight Center) NASAs Hubble Space Telescope has detected a stratosphere, one of the primary layers of Earths atmosphere, on a massive and blazing-hot exoplanet known as WASP-33b.

日期: 2015-06-12

## **UCLA-led NASA mission provides closest ever look at dwarf planet Ceres**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/uoc--unm061115.php](http://www.eurekalert.org/pub_releases/2015-06/uoc--unm061115.php)

摘要: (University of California - Los Angeles) NASAs Dawn mission is observing the dwarf planet Ceres from 2,700 miles above its surface, and this week released a new image of Ceres and a one-minute video animation of Ceres, based on images Dawn took of this heavily cratered, mysterious world. Everything we learn from Ceres will be absolutely new, said Christopher T. Russell, a professor in UCLA's Department of Earth, Space and Planetary Sciences, and the Dawn missions principal investigator.

日期: 2015-06-12

## **This week from AGU: Space weather warnings, real-time water management**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/agu-tw061015.php](http://www.eurekalert.org/pub_releases/2015-06/agu-tw061015.php)

摘要: (American Geophysical Union) A new model, described in a June 9 paper in the journal Space Weather, might finally give scientists a tool to predict a coronal mass ejections magnetic configuration from afar, which means forecasters could give utility grid and satellite operators a full 24-hour advance warning to protect their systems.

日期: 2015-06-11

## **研究人员采用新技术评估页岩气开发对地下水资源的影响**

来源 URL: <http://www.pnas.org/content/112/20/6325>

摘要: 2015年5月, PNAS 在线发表了题为《马塞勒斯页岩气开发造成地下水源污染事件评估》(Evaluating a groundwater supply contamination incident attributed to Marcellus Shale gas development) 的文章, 介绍采用了一种新的技术发现页岩钻井液添加剂在饮用水井附近泄漏。研究发现广泛用于钻探和开采马塞勒斯页岩气的物质在宾夕法尼亚的饮用水井出现泄漏。受影响的家庭位于马塞勒斯页岩天然气井场中一个泄漏坑附近。研究者认为散乱的天然气和废水沿着浅—中等深度压裂区横向移动了 1~3km, 到达家庭水井水源地。研究者用了高度复杂的设备并检测了大范围的可能的低浓度污染物, 而不是检测特定污染物。为了确认污染物, 研究者使用了非传统的方法, 尤其是 GC-GC-TOFMS, 其是一种气相色谱-质谱联用技术, 可以分析饮用水的特征, 从而确定是什么原因造成了泄漏。并采用了新的分析技术从家庭中进行抽样, 在引用水井中发现了名为 2-BE 的化合物, 以及未知的有机污染物的复杂混合物, 这两种物质都是马塞勒斯页岩井回流液中常见的物质。这些来自页岩气井的污染物以前从没有在浅层饮用水源中发现过。研究指出, 新的技术将有助于评估非常规天然气钻探对地下水的影响。

日期: 2015-06-10

## **Nature Communications: 开尔文—亥姆霍兹波影响地球磁场**

来源 URL: <http://www.nature.com/ncomms/2015/150511/ncomms8019/full/ncomms8019.html>

摘要: 2015年5月11日,自然通讯(Nature Communications)上发表了新罕布什尔大学科研人员关于地球磁圈中开尔文—亥姆霍兹波的最新研究成果。科研人员发现,开尔文—亥姆霍兹波在地球磁圈中普遍存在,使得来自太阳风暴的粒子可以进入磁圈,产生震荡,影响地球的防护辐射带,从而保护人类免受宇宙辐射的伤害。这一认识与早先关于其无法改变磁圈动力学机制的传统认识截然不同。开尔文—亥姆霍兹波是一种具有特殊模式的波,它遍及地球云层、海洋表面,甚至木星大气圈。研究人员利用NASA“地磁亚暴期间的重大事件时间历史及宏观交互研究”(THEMIS)项目获得的数据,发现开尔文—亥姆霍兹波通常在磁亚暴期间20%的时间内在磁层顶上会普遍存在,并且可以改变地球辐射带的能量水平。这种改变对保护辐射带或航天器和地面技术产生不同程度的影响。该发现有助于更好的理解了基本物理磁圈的运行机制。科研人员还表示,与传统认识中磁层顶中开尔文—亥姆霍兹波很少见的观点不同,该研究发现其实际上一直都存在,而且经常控制着磁性层的超低频波。THEMIS项目研究提供了独一无二的、长时间尺度的数据集,研究人员可以对开尔文—亥姆霍兹波进行全面详细的统计分析。

日期: 2015-06-10

## **Quenched glasses, asteroid impacts, and ancient life on Mars**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/gsoa-qga060815.php](http://www.eurekalert.org/pub_releases/2015-06/gsoa-qga060815.php)

摘要: (Geological Society of America) Quenched glasses formed by asteroid impacts can encapsulate and preserve biological material for millions of years on Earth, and can also serve as a substrate for microbial life. These impact glasses are thus an important target to search for signs of ancient life on Mars, but until now they have not been definitively detected on the martian surface.

日期: 2015-06-09

## **Plutos moons seen in highest detail yet**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/uom-pms060215.php](http://www.eurekalert.org/pub_releases/2015-06/uom-pms060215.php)

摘要: (University of Maryland) A new study in the journal Nature is the first to reveal fascinating details about the orbital and rotational patterns of Pluto and its five known moons. Pluto and its largest moon, Charon, form a binary planet and four smaller moons orbit this pair. The paper reports the techniques used to discover the two smallest moons, Kerberos and Styx, and describes of the rotational states of the two slightly larger moons, Nix and Hydra.

日期: 2015-06-04

## **Keeping astronauts in space longer with better air and water**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/acs-kai060315.php](http://www.eurekalert.org/pub_releases/2015-06/acs-kai060315.php)

摘要: (American Chemical Society) As astronauts embark on increasingly ambitious space missions, scientists have to figure out how to keep them healthy for longer periods far from Earth. That entails assuring the air they breathe and the water they drink are safe -- not an easy task given their isolated locations. But scientists are now reporting in the ACS journal Analytical Chemistry a new method to monitor the quality of both in real time with one system.

日期: 2015-06-04

## **Astronomers discover a young solar system around a nearby star**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nion-ada060215.php](http://www.eurekalert.org/pub_releases/2015-06/nion-ada060215.php)

摘要: (National Institutes of Natural Sciences) An international team led by Thayne Currie of the Subaru Telescope and using the Gemini South telescope, has discovered a young planetary system that shares remarkable similarities to our own early solar system.

日期: 2015-06-03

## **Alice instruments ultraviolet close-up provides a surprising discovery about comets atmosphere**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/sri-aiu060215.php](http://www.eurekalert.org/pub_releases/2015-06/sri-aiu060215.php)

摘要: (Southwest Research Institute) A close-up of Comet 67P/Churyumov-Gerasimenko by NASAs ultraviolet instrument surprised scientists by revealing that electrons close to the comets surface -- not photons from the sun as had been believed -- cause the rapid breakup of water and carbon dioxide molecules spewing from the surface.

日期: 2015-06-03

## **Cosmic cinema: Astronomers make 3-D movies of plasma tubes**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/uos-cca060115.php](http://www.eurekalert.org/pub_releases/2015-06/uos-cca060115.php)

摘要: (University of Sydney) University of Sydney undergraduate Cleo Loi is lead author on research that creatively used a radio telescope to see in 3-D, allowing astronomers to detect the existence of tubular plasma structures in the inner layers of the magnetosphere surrounding the Earth.

日期: 2015-06-02

## **Circular orbits identified for small exoplanets**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/miot-coi060115.php](http://www.eurekalert.org/pub_releases/2015-06/miot-coi060115.php)

摘要: (Massachusetts Institute of Technology) In a paper published in the Astrophysical Journal, researchers from MIT and Aarhus University in Denmark report that 74 exoplanets, located hundreds of light-years away, orbit their respective stars in circular patterns, much like the planets of our solar system.

日期: 2015-06-02

## **Seeing a single photon, new exoplanet search, quantum space network at 2015 DAMOP Meeting**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/aps-sas060115.php](http://www.eurekalert.org/pub_releases/2015-06/aps-sas060115.php)

摘要: (American Physical Society) The American Physical Societys 2015 Division of Atomic, Molecular and Optical Physics meeting focuses on fundamental research and novel technical applications involving atoms, simple molecules, electrons and light, and their interactions. Among the research being presented this year are a new way to search for Earth-size exoplanets, testing the limits of human vision, better invisibility cloaks and advances that may lead to a quantum network in space.

日期:2015-06-02

## **Crashing comets may explain mysterious lunar swirls**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/bu-ccm060115.php](http://www.eurekalert.org/pub_releases/2015-06/bu-ccm060115.php)

摘要: (Brown University) Brown University researchers have produced new evidence that lunar swirls -- wispy bright regions scattered on the moons surface -- were created by several comet collisions over the last 100 million years.

日期: 2015-06-02

## **Similarities between aurorae on Mars and Earth**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/au-sba052715.php](http://www.eurekalert.org/pub_releases/2015-05/au-sba052715.php)

摘要: (Aalto University) An international team of researchers has for the first time predicted the occurrence of aurorae visible to the naked eye on a planet other than Earth.

日期: 2015-05-28

## **Discovery shows what the solar system looked like as a toddler**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/uoc-dsw052715.php](http://www.eurekalert.org/pub_releases/2015-05/uoc-dsw052715.php)

摘要: (University of Cambridge) Astronomers have discovered a disc of planetary debris surrounding a young sun-like star that shares remarkable similarities with the Kuiper Belt that lies beyond Neptune, and may aid in understanding how our solar system developed.

日期: 2015-05-28

## **CU-Boulder instrument selected for NASA mission to Europa**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/uoca-cis052715.php](http://www.eurekalert.org/pub_releases/2015-05/uoca-cis052715.php)

摘要: (University of Colorado at Boulder) A University of Colorado Boulder instrument has been selected to fly on a NASA mission to Jupiters icy moon, Europa, which is believed to harbor a subsurface ocean that may provide conditions suitable for life.

日期: 2015-05-28

## **This week from AGU: NASA Earth science, Climate change music, Tibetan Plateau evolution**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/agu-tw052715.php](http://www.eurekalert.org/pub_releases/2015-05/agu-tw052715.php)

摘要: (American Geophysical Union) This week from AGU: NASA Earth science, Climate change music and Tibetan Plateau evolution.

日期: 2015-05-28

## **MaterialsLab improves how we conduct research on Earth and in space**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-05/nsc-mih052615.php](http://www.eurekalert.org/pub_releases/2015-05/nsc-mih052615.php)

摘要: (NASA/Johnson Space Center) An initiative between NASA and the National Institute of Standards and Technology has created MaterialsLab -- a new approach to materials science research that will provide worldwide collaboration.

日期: 2015-05-27

## **New study favors cold, icy early Mars**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/agu-nsf061515.php](http://www.eurekalert.org/pub_releases/2015-06/agu-nsf061515.php)

摘要: (American Geophysical Union) The high seas of Mars may never have existed, according to a new study that looks at two opposite climate scenarios of early Mars and suggests that a cold and icy planet billions of years ago better explains water drainage and erosion features seen on the planet today.

日期: 2015-06-16

## 天文技术方法和仪器

### **Communicating with hypersonic vehicles in flight**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/aiop-cwh061215.php](http://www.eurekalert.org/pub_releases/2015-06/aiop-cwh061215.php)

摘要: (American Institute of Physics) Routine communications blackouts, between a re-entry spacecraft and ground control, can cause anxiety, as there is no way to know or control the location and state of the spacecraft from the ground, but researchers at the Harbin Institute of Technology in China have proposed a new way to maintain communication with spacecraft as they re-enter the atmosphere. The approach might also be applied to other hypersonic vehicles such as futuristic military planes and ballistic missiles.

日期: 2015-06-17

### **Cosmic ray observatory to expand**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/uou-cro061215.php](http://www.eurekalert.org/pub_releases/2015-06/uou-cro061215.php)

摘要: (University of Utah) Physicists plan a \$6.4 million expansion of the \$25 million Telescope Array observatory in Utah so they can zero in on a hotspot that seems to be a source of the most powerful particles in the universe: ultrahigh-energy cosmic rays.

日期: 2015-06-16

## 基本天文

### **Nations first operational satellite in deep space reaches final orbit**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nh-nfo060815.php](http://www.eurekalert.org/pub_releases/2015-06/nh-nfo060815.php)

摘要: (NOAA Headquarters) More than 100 days after it launched, NOAAs Deep Space Climate Observatory (DSCOVR) satellite has reached its orbit position about one million miles from Earth. Once final instrument checks are completed, DSCOVR, which will provide improved measurements of solar wind conditions to enhance NOAAs ability to warn of potentially harmful solar activity, will be the nations first operational space weather satellite in deep space.

日期: 2015-06-09

### **Hubble observes chaotic dance of Plutos moons**

来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/eic-hoc060315.php](http://www.eurekalert.org/pub_releases/2015-06/eic-hoc060315.php)

摘要: (ESA/Hubble Information Centre) In a new study, scientists have gathered all available

NASA/ESA Hubble Space Telescope data on the four outer moons of Pluto to analyze the system in more depth than ever before. The observations show that at least two of Plutos moons are not neatly rotating on their axes but are in chaotic rotation while orbiting around Pluto and its companion Charon.

日期: 2015-06-04

## **NASAs Hubble finds Plutos moons tumbling in absolute chaos**







来源 URL: [http://www.eurekalert.org/pub\\_releases/2015-06/nsfc-nhf060315.php](http://www.eurekalert.org/pub_releases/2015-06/nsfc-nhf060315.php)

摘要: (NASA/Goddard Space Flight Center) If you lived on one of Plutos moons, you might have a hard time determining when, or from which direction, the sun will rise each day. Comprehensive analysis of data from NASAs Hubble Space Telescope shows that two of Plutos moons, Nix and Hydra, wobble unpredictably.

日期: 2015-06-04

### 备注

根据天文学十三五规划，天文领域分类如下：

-  1. 星系和宇宙学：包含 暗物质、暗能量、黑洞。
-  2. 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。
-  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）。