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PLANETARY SCIENCE RESEARCH
PSRD Discoveries

Planetary scientists sharing ideas and discoveries.

Planetary Science Research Discoveries (PSRD) is an educational site sharing the latest research by NASA-sponsored scientists on meteorites, asteroids, planets, moons, and other materials in our Solar System. The website is supported by the Cosmochemistry Program of NASA's Science Mission Directorate and by Hawaii Space Grant Consortium and is a vital link for planetary and space sciences, and for learning how science works.

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Glossary

A. B. C. D. E. F. G. H. I. J. K. L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z

A'a: Blocky, angular, and rough type of lava flow.

Accretion: The growth of planetary bodies from smaller objects by impact, one impact at a time. After formation, bodies are said to have "accreted" from small objects.

Achondrite: A class of stony meteorites that crystallized from magmas. The term means without chondrules.

AGB stars: Cool, luminous, and pulsating red giant stars. Most stars in the Universe that have left the main sequence will reach their final evolutionary stage as stars on the asymptotic giant branch (AGB).

Agglutinates: Common particle type in lunar regolith. Agglutinates consist of small rock, mineral, and glass fragments bonded together with glass—a glass that is formed by flash heating when micrometeorite impacts melt the lunar regolith. The heat can also release solar-wind-implanted hydrogen and helium from the lunar regolith, causing vesicles (bubbles) in the quickly-quenched glass. Agglutinates are typically tens of micrometers to a few millimeters in size.

Albedo: The brightness of an object or surface; it is the percentage of incoming radiation (light) that the object or surface reflects.

Amazonian Epoch: The geologic history of Mars has been divided into three broad time periods, or Epochs. From oldest to youngest, these are *Noachian*, *Hesperian*, and Amazonian (named after places on Mars). These Epochs are defined by the number of impact craters on the ground surface, older surfaces have more craters. The Amazonian Epoch extends from about 2.9-3.3 billion years ago to the present day. The actual timing of the Epochs is not known because we have different models of the rates of meteorite falls on Mars.

Amino acids: Molecules that are essential components of life as the chemical building units of proteins and enzymes. Amino acids are made of carbon, hydrogen, oxygen, and nitrogen. In the context of planetary science,

Logo



URL

<http://www.psrд.hawaii.edu/PSRDglossary.html>

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Brief History

Work on PSRD started in September, 1996. The first articles were posted in October, 1996. In February, 2001 PSRD moved to its current address: www.psrд.hawaii.edu. In mid-2010 it reviewed the old legacy HTML

originally intended for the very first web browsers and updated the site with a custom search engine and new design using current web standards and best practices. Additional resources are added as needed. Present copyright date is available i.e. 2016.

Scope and Coverage

PSRD is a dynamic website covering hot topics in cosmochemistry and planetary sciences. Cosmochemistry is an interdisciplinary science that overlaps with geochemistry, geology, astronomy, astrophysics, and geophysics to discover the materials and fundamental processes in the solar nebula and our solar system. These sciences give one the complementary ways of looking at the origins of the living entities by addressing questions such as, How did the Sun and planets form? Where did living beings come from? Cosmochemistry is a careful examination of the building blocks of the cosmos, and will play an important role to develop local resources on the Moon, Mars, and asteroids, essential to sustained human presence in space.

Kind of Information

Definitions, descriptions, measurement, notable dates related with the terms etc. are given along with the terms. See references are also provided. Provision for getting further information on a particular term is also incorporated. Some examples are given below for clear understanding.

Andesite: Dark-colored, fine-grained extrusive igneous rock with about 52 to 63 weight percent silica (SiO₂). Andesite consists mainly of plagioclase and one or more mafic minerals. The word andesite is derived from the Andes Mountains, located along the western edge of South America, where andesite rock is common.

Mars Odyssey: U. S. orbital mission to Mars, part of NASA's Mars Exploration Program, launched in April, 2001 and arrived at Mars in October, 2001. The mission's goals are to map chemical elements and minerals, look for water, and analyze the low-orbit radiation environment using three primary instruments: Thermal Emission Imaging System (THEMIS), Gamma Ray Spectrometer (GRS), and Mars Radiation Environment Experiment (MARIE). During and after its science mission, the Odyssey orbiter will also support other missions in the Mars Exploration program. It is providing communications relay for U.S. and international landers, including the Mars Exploration Rovers launched in June and July, 2003. [2001 Mars Odyssey website](#).

Link for further information

Ordinary chondrite: The most common class of meteorite to fall on Earth. They contain variable amounts of metal and chondrules in a matrix of mostly silicate minerals. [See chondrite](#).

See reference

Special Features

- ❖ The PSRD website provides a comprehensive archive that contains various articles with coloured and black and white illustrations (sometimes some pictures directly taken by the satellites), graphics, animations, charts, graphs, pdf versions for easier printing, short slide summaries of articles on various celestial bodies and missions.

- ❖ CosmoSparks reports, news links, subscription service etc. are also available.
- ❖ Links to RSS feed, social-media sharing links (Facebook, Twitter, Pinterest etc.) and comments page.
- ❖ The Headline article of the month is shown on the homepage of PSRD and all the articles and reports from the entire collection are available in the archive. One should use the navigation links on the page tops or bottoms to move throughout the website.

Arrangement Pattern Alphabetical arrangement of terms is conspicuous by its presence. For example under the alphabet “A” Accretion, Achondrite, AGB stars, Agglutinates etc. are arranged in alphabetic order.

Remarks Planetary Science Research Discoveries (PSRD) is an educational site sharing the latest research by NASA-sponsored scientists on meteorites, asteroids, planets, moons, and other materials in our Solar System. PSRD makes every effort to bring the current and accurate information to the readers. Each article is reviewed by appropriate researchers before being released to the general public. Some information accessed through the PSRD website may be preliminary. The coverage of the dictionary may not be very vast but in gaining brief but instant idea regarding planetary sciences this dictionary plays an undeniable role.

Comparable Tools

- Oxford Dictionary of Astronomy
(<http://www.oxfordreference.com/view/10.1093/acref/9780199609055.001.0001/acref-9780199609055>)
- Astronomical Dictionary Contents
(<http://www.astrodictionary.chevinside.com/dictionarycontents.htm>)

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