

SECRETS OF GALAXY AND PLANETS

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**Abstract:** *The topic “Secret of Galaxy and Planets” explores the complex and fascinating dynamics of the universe, focusing on the formation, structures and evolution of galaxies and their planetary systems. This abstracts examines the inter play of gravitational forces. The role of dark matter and the processes that give rise to diverse planetary environments. Recent advancements in technology and space exploration have unveiled new insights, challenges previous theories and opening up discussing about the extraterrestrial life. By unrevealing this cosmic mysteries, we not only enhance over understanding of the universe but also reflect on humanity’s place within it.*

**Key words:** *galaxies, planets, universe, exoplanets, gravity, space, solar systems, extinct planets.*

The topic of “Secrets of galaxy and planets” includes into the mysterious and wonders the universe, exploring the vast expose of galaxies and infinite of planets that reside within them. The subject encompasses the formation and evolution of different planetary systems, and ongoing guests for extraterrestrial life. The universe is one of the most mysterious and wonderful places of humanity. It is full of millions of stars, planets, asteroids, comets and many other objects. There have been many theories and studies about the existence of the universe. Planets are important objects in this universe, and studying their characteristics and secrets is of great importance for mankind. Stars in the neighboring thin disk have been the focus of most exoplanet research to date (Bashi & Zucker 2019). Because planets orbiting nearby stars are easier to discover using transit and radial velocity (RV) approaches, this focus is mostly the result of observational limitations. A thorough understanding of planet formation is however beginning to take shape in spite of these constraints (e.g. Pollack et al. 1996; Bitsch et al. 2019; Johansen et al. 2019; Dr̄a'żkowska et al. 2023). The protoplanetary disks that



surround young host stars are thought to be the source of planetary systems. According to the dominant theory, the core-accretion model, in which giant planet embryos develop by accumulating planetesimals and pebbles, is how the majority of planets form.

**The Antiquity of the Universe.** There are many theories about the creation of the universe. The most common theory is the Big Bang theory. According to this theory, the universe was in a primitive state about 13.8 billion years ago with very high density and temperature. Over time, the universe expanded and stars and planets formed. The universe continues to expand and evolve, which encourages mankind to constantly make new discoveries.

**Types of Planets and Their Characteristics.** Planets are large bodies in the universe that revolve around stars. They can be dry, gaseous or liquid. There are four Earth-like planets in our Solar System: Mercury, Venus, Earth, and Mars. These planets consist of solid land. On the other hand, the gas giants such as Jupiter, Saturn, Uranus and Neptune are mostly composed of gases. Mercury is the closest planet to the Sun. Its atmosphere is very uncertain and can be very hot and very cold. Mercury does not have liquid water, but it does have salts and minerals on its surface. Venus is the closest planet to Earth, and its atmosphere is very thick and rich in oxygen. The surface of Venus is very hot and full of acids, which makes it very inhospitable for life. Earth is our only planet that offers the most favorable conditions for life. Earth has liquid water, oxygen and various life forms. Mars is called the "Red Planet" because its surface is covered with iron oxide. Many studies are being conducted to find traces of life on Mars. Jupiter is the largest planet in the solar system. It is a gas giant and has many planets. One of Jupiter's unique features is its strong magnetic field and temperate atmosphere. Saturn - Arguably, this planet has the most beautiful rings. Saturn's rings are mostly ice and rock. Uranus and Neptune - These planets are also gas giants and have very cold conditions. The colors of Uranus and the strong winds of Neptune are distinctive features.

**Traces of Life in the Universe.** Searching for traces of life in the universe is one of the most important tasks of mankind. Places such as Mars and Europa (one of Jupiter's moons) suggest that conditions suitable for life may exist. There is a lot of evidence for the presence of liquid water on Mars, which gives hope to find traces of life there.



Astronomers are also studying exoplanets orbiting other stars. Some of them are located in the so-called "life zone", that is, in the area where liquid water can exist. This further increases the possibility of life on other planets and in space.

**History of Space Exploration.** The history of space exploration dates back to ancient times. Early astronomers, such as Ptolemy and Copernicus, developed theories about the universe. Later, Galileo Galilei invented the telescope and made a great contribution to determining the position of the planets in the universe. In the 20th century, astronomy developed further. The Hubble telescope helped to explore the universe in greater depth. It made it possible to study the expansion of the universe, the process of star formation and galaxies.

**The Future of the Universe.** There are many questions about the future of the universe. Is the universe continuing to expand, or will it someday shrink? Some astronomers say that the end of the universe may be related to the "Disruption Theory". Others propose the "Big Freeze" or "Big Crunch" theories.

The mysteries of the universe continue to be explored. Each new discovery helps mankind expand its knowledge of the universe. The study of the universe raises not only scientific, but also philosophical questions: "Who are we?", "What is the meaning of life?" and "Are we alone?".

Space and planets are one of the most interesting and mysterious topics of humanity. The planets that exist in the universe, their properties and traces of life are being studied and this process is ongoing. Each new discovery brings us closer to the mysterious and beautiful world of the universe. The study of the universe is not only scientific, but also a process that helps humanity understand itself and determine the meaning of life. By unlocking the mysteries of the universe, we better understand ourselves and our place in it.



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**INTERNET RESOURCES:**

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