

Since general
objective of the kepler
mission



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Since the modern age man has fallen in love with science and the thrill of discovery spurns him on to explore new frontiers.

After the invention of the airplane and telecommunication there seems to be nothing left to discover except those that can be found beyond the borders of the earth (Boss, p. 90). When man landed on the moon it opened a new frontier - outer space. Since then, generation after generation continued their fascination with space travel. At the same time, those who were born after 1963 were fed a steady diet of science fiction novels and films increasing the excitement in the quest for a world similar to earth but inhabited by aliens more powerful than human beings.

The Kepler Mission is the testament to that enthusiasm although after decades of searching there is no single piece of evidence that can confirm that we are not alone in the universe. Everything is based on conjectures. There is no scientific phenomenon as of yet that can enable scientists to proclaim that there are other living organisms outside planet Earth. The guesswork is based on the fact that since there is a planet teeming with life then it follows that there is another one similar to it.

This is based on the argument that the universe seems to be limitless and because of that it is prudent to consider this idea. But a closer examination of the evidence reveals that the earth seems to be an anomaly, meaning to say that there are so many factors that has to come in play just at the same time in order to produce life (Kasting, p. 192).

Ask the astronauts and the scientists who are familiar with the brutal conditions of outer space and they would tell you that it is impossible to sustain life outside the friendly atmosphere of the earth.

The Mission

Hundreds of millions of dollars had been spent to strengthen the argument that there are other beings in other galaxies. For instance in the Mojave Desert of Southern California one can find gigantic listening devices built by scientists to eavesdrop on outer space (Launius & McCurdy, p.

149). But many years after it became operational these devices had not yet recorded anything that can be said as irrefutable evidence that there are others out there. The quest for alien life forms in outer space should have been relegated to fantasy and science fiction if not for the discovery of hundreds of planets orbiting stars (Ames Research Center, p. 1).

In other words there is indeed a system similar to what is known as the solar system of the Milky Way galaxy. So far there are at least three types of planets that orbit stars and these are exoplanets labeled as gas giants; hot-super-Earths in short period orbits; and ice giants (Ames Research Center). Again there is no solid footing that one can use to make a declaration that Earth-like planets are about to be discovered by NASA. However, for those who have kept the belief that we are not alone in the universe has now a good lead (Goldsmith & Owen, p. 402).

The general objective of the Kepler Mission is to find life outside planet Earth (Haswell, p. 206). But members of this group are aware of the challenges up ahead. Thus, they made a deliberate decision to take one small step at a
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time. Although what they proposed is something not easy but compared to the whole universe it can be considered as baby steps. According to them the specific purpose of the Kepler Mission is to survey a small part of a region of the Milky Way galaxy to discover and track down Earth-sized planets.

The second step is to find out if any of these Earth-sized planets happen to be located in or near a solar system's habitable zone (Beech, p. 96). The mission statement can be further broken down into simpler goals such as to survey a large sample of stars in order to find out the number of terrestrial and larger planets in or near the ideal zone in a solar system. The purpose of the survey is also to determine the sizes and shapes of the orbits of these earth-sized planets. The Kepler Mission also hopes to discover the number of planets in multiple-star systems. Finally, the goal is to find out the properties of stars that are part of a solar system. In other words the Kepler Mission has only one thing in mind and it is to discover a planet that is similar to the Earth. The moment that they would discover a planet with the same characteristics as Earth then they believe that they are closer to their goal of discovering extraterrestrial life.

Habitable Zone

The Kepler Mission was launched on March 6, 2009 by the National Aeronautics and Space Administration. The main purpose is to study Earth-sized planets that are orbiting in a sun like ours and orbiting within the so-called habitable zone (National Academy of Engineering, year, p. 23) There is a time limit to the said quest. The program has to yield results within three and a half years after the start of its funding. However, it can be extended

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for another three and a half years extending its life cycle to seven years (National Engineering Academy, year, p. 23). But it seems that time is running out. The habitable zone is related to the temperature needed for water to remain liquid.

It has been said that life would be impossible without water considering the importance of water in reproduction and cellular activity. Therefore it is proper to consider the habitable zone required to have life outside the Earth.

Recent Developments

The Kepler Mission acknowledge other organizations that share a similar passion. In their official website they offered links to other sites that are tracking planets to know more about them and finally stumble upon a planet just like Earth. One of the websites given is that of New Worlds Atlas maintained by the California Institute of Technology. There is no mistaking the fact that the creators of this site are in a serious planet quest and the mention of the term atlas means that this is the next major step into man's fascination with outer space. This is all worthy of mention and definitely deserves the attention of the scientific community. This is something that even the average person can understand and appreciate.

It is also a quest that can be shared by every human being. This project can unite this planet to achieve one common goal and foster a unity and solidarity never been seen before. However, New World Atlas pool of scientific knowledge revealed something that can dampen the spirits of the Kepler Mission team. According to their official report they have already

tracked down 531 exoplanets. They were also able to discover as of the moment that there are 445 stars with planets.

Three hundred and twenty nine of these are gas giants. One hundred and twenty three were classified as hot Jupiters meaning it cannot support life. Finally, the most important category the number of Earth-like planets in existence and they said zero. It is too early in the game to give up. But based on what was said it is extremely difficult to discover a planet just like the one mankind is currently living in at the moment.

There are so many factors that has to be perfect in order to support life (Shaw, p. 150). Thus, scientists were in agreement that there is only one way to simplify the process of searching for extraterrestrial life outside this world.

And it is none other than to look for Earth-sized planets within the habitable zone.

Conclusion

The mission is simple to understand but difficult to accomplish. Since the time that man learned to peer into the vastness of the outer space using crude telescopes, the question whether there is extraterrestrial life forms outside planet Earth has intrigued many. On March of 2009 this was given a major scientific boost when NASA decided to fund a project that would track down Earth-sized planets in the Milky Way galaxy and find out if these planets are orbiting within the habitable zone. But as of the moment the number is zero. The Kepler Mission together with its partners have not yet discovered an Earth-like planet.

Their mission is supposed to end after three and half years and judging by the rate of their work and the evidence collected so far, it can be said that their time is running out.

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