# The Earth and Cosmic Harmonic Factor 

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#### Abstract

We investigate the relation between Earth's distances and other components of the universe. To obtain this relationship we supposed the distance between earth and other celestial objects are follow a constant value of 1.466 with a simple equation which is called, Harmonic Factor. To prove this idea, we find out the distance of celestial objects such as moon, sun, galaxies, Local cluster, Super cluster and Group of super clusters in terms of Earth radius with a good accuracy. Moreover, we predict a new position for an unknown object or a group of objects, which have not found yet. The results for nearest distance values are very close with real and known values and for farthest objects, need more information in future.


Key words: Harmonic Factor, Radius, Earth, Moon, Sun, Galaxy, Cluster, Super-cluster, Cosmic
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## INTRODUCTION

As we know the moon is rotating around the Earth and Earth and moon around the Sun (Parker \& Heywood, 1998) and continually moon, Earth and Sun moving in a greater circle around the galaxy (Bailer-Jones, 2005). The cosmic clustering and universal systems are revolving around each other in the form of circular or semi-circular shape with very accuracy. Here we have used these orbital radiuses as the focal point and tried to draw all the rotation movements of the earth around the center individually or as part of the system. Because of the large structure and huge magnitude of the longitudinal differences among the smallest and largest orbits, it is not possible to put all clusters in one sheet.
In this regards we assumed, each Earth rotation around an object as an orbit structure given a number as $N_{i}$ where $i=$ $1,2,3,4,5,6,7$ and therefore different $N_{i}$ indicate different orbits. As the first orbit or $i=1$, and therefore $N_{1}$, it is defined the Earth rotation orbit around the center of the Earth-moon system. For the second orbit with $i=2$ and it is introduced with $N_{2}$ and is the Earth rotation around the Sun. The third orbit which may has given more unexpected result is defined by $N_{3}$. This orbit is supposed as the solar system orbit (sun and
all planets and smaller objects), which it moves within the stars Local group. This is an unknown rotation and predicted in this result. It is believed that this is may be as a new system. The next orbit may introduce with $N_{4}$ and it is the Star Local group orbit. This rotation is a part of the rotation of the Milky Way Galaxy which is moving around the center of the galaxy. The orbit five is assumed as the orbit of Milky Way galaxy and shown with $N_{5}$. In this orbit Milky Way galaxy moves within and around the center of the local cluster of galaxies. The next orbit is $N_{6}$. This orbit is supposed to be the Local Group of Galaxies which moves within and around the center of the Local Super-cluster. According to this idea the latest orbit is defined as $N_{7}$ and it is assumed to be orbit of the various Superclusters of galaxies which moving away from each other. It is may be to think that these various Super-clusters of galaxies move from a center. Some orbits are known well and some not yet.

## THEORY

In the first orbit $(i=1)$ and therefore $N_{1}$, the Earth and moon distance in terms of Earth equatorial radius ( $R=6378.1370$ ) (Hide \& Horai, 1968) in with power of constant value or

Harmonic Factor $(H=1.466)$ is about $378,164.78 \mathrm{~km}$. For the second orbit with $(i=2)$ and $N_{2}$, the Earth rotation around the Sun in terms of Earth radius and harmonic factor $H$, is about $150,272,826.63 \mathrm{~km}$. The results for the first and second orbits completely are correct and accurate with the real measurements. The results of these two orbits are very close to real data in terms of astronomical unit (AU) value with $1.5 \times$ $10^{8} \mathrm{~km}$. Similarly, for other orbits we use Eq (1).

$$
\begin{equation*}
R(s)=R^{x} \quad(i=1,2,3,4,5,6,7) \tag{1}
\end{equation*}
$$

Here $R$ is the Earth equatorial radius $6378.1370(\mathrm{~km})$ and $R(s)$ is known as radius of the ring(s) and $x$ is defined in terms of harmonic factor value of $H=1.466$ and also $N_{i}$ is ring number for different orbits as $(1.466)^{N_{i}}$ of $i$.

$$
\begin{equation*}
x=H^{N_{i}} \quad(i=1,2,3,4,5,6,7) \tag{2}
\end{equation*}
$$

The results for higher order of $i$ and consequently $N_{i}$ and therefore $x$ values shown in the Table 1 .

| No | Distance | $\mathbf{X}$ | $\mathbf{R ( s )} \mathbf{~ k m}$ | $\mathbf{R ( s ) l y}$ | Light(Sec/min/day/year) |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | Earth- Moon | 1.466 | $378,164.78$ | $3.99729 \mathrm{E}-08$ | 1.26142193 | (light second) |
| 2 | Earth- Sun | 2.149156 | $150,272,826.63$ | $1.58842 \mathrm{E}-05$ | 8.35426991 | (light minute) |
| 3 | Earth- ? | 3.150662696 | $971,195,693,226.41$ | 0.102657658 | 37.4949089 | (light day) |
| 4 | Earth- Galaxy | 4.618871512 | $3.74 \mathrm{E}+17$ | 39532.67553 | 39532.6756 | (light years) |
| 5 | Earth- Local Cluster | 6.771265637 | $5.79 \mathrm{E}+25$ | $6.12017 \mathrm{E}+12$ | $6.12016555 \mathrm{E}+12$ | (light years) |
| 6 | Earth- Super cluster | 9.926675424 | $5.86 \mathrm{E}+37$ | $6.19416 \mathrm{E}+24$ | $6.19415719 \mathrm{E}+24$ | (light years) |
| 7 | Earth- Group Of Super Clusters | 14.55250617 | $2.33 \mathrm{E}+55$ | $2.46286 \mathrm{E}+42$ | $2.46286455 \mathrm{E}+42$ | (light years) |

## CONCLUSION

The universe may assume as number of separated layer systems so that each layer is inside of the other layer, and with a construction connections. This model also show that it is may be possible to describe the universe in seven sub layers. Using

## REFRENCES

Bailer-Jones, C. A. (2005). Microarcsecond astrometry with Gaia: the solar system, the Galaxy and beyond. Paper presented at the IAU Colloq. 196: Transits of Venus: New Views of the Solar System and Galaxy.
this model and constant value which is called cosmic harmonic factor we are able to find the dimensions of the unknown universe in terms of earth radius. The simple mathematical results of this model explain a new position in the ring number three as unknown universe which has not decided yet and need to clarification by scientists in future.

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