

## Moon Orbital Motion Analysis (II)

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### Abstract

The Moon orbital Motion Direction is defined based on the following factors:

1- Masses Gravity forces definition for the moon motion direction is correct.

But

2- The moon principle motion is done similar to Earth motion – i.e. a motion on straight line inclining with 0.985 degrees per solar day

3- Because Earth motion =2.58 mkm and moon motion becomes 2.41 mkm –this difference in velocities causes the motion in straight line to be seen in parabola

So – points 2 & 3 should be taken into consideration before using Masses gravity to define the moon orbital motion direction

4- Venus effect on the moon orbit causes its regression 19 degrees yearly and that effect on the moon orbital motion

5- Saturn and Uranus interaction effects on the moon orbital motion and defined the moon motion main points

That means

There are 5 factors effect on the moon orbital motion direction

### References

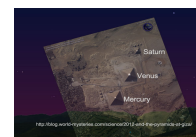
- Moon Orbital Motion Analysis <http://vixra.org/abs/1910.0080>  
The Moon Indeed Moves by Gravity <http://vixra.org/abs/1910.0001>  
The Moon Indeed Moves By Gravity (II) <http://vixra.org/abs/1910.0013>  
The Moon Indeed Moves by Gravity (III) <http://vixra.org/abs/1910.0063>  
The Moon Indeed Moves by Gravity (Iii) (Explanation) <http://vixra.org/abs/1910.0071>  
Is the 2737 Phenomenon a real one? (II) <http://vixra.org/abs/1908.0583>

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**The Assumption Of S. Virgin Mary.**

**Written in Cairo – Egypt**

**8<sup>th</sup> October 2019 (S. George)**



## 1- Introduction

How does the moon defines its motion direction?

In previous paper we have discovered that – the moon motion is consisted of 2 different motions – where these 2 motions distances total =2.58 mkm = Earth Motion daily- means Earth and Moon will not be separated from each other ..

Shortly

We know the moon motion daily a distance (=2.58 mkm) but in what direction this motion is done?

We simply know Earth Motion direction daily – Earth revolves around the sun one complete revolution in 365.25 days – that means – Earth motion trajectory inclines on the horizontal with 0.985 degrees daily – so the direction is clear based on the previous day Earth will inclines with 0.985 degrees in revolution direction around the sun –it's simple explanation

The moon motion is not similar to this motion trajectory description for many reasons – so – how the moon defines his motion direction daily...

It's some how complex process – here let's refer to one feature only of it

We know that – the moon defines 4 basic point – during his motion which are

- I. **Perigee radius** =363000 km = Earth Moon Distance to perigee point which is the most near point the moon can reach to Earth.
- II. **Total solar eclipse radius** =378000 km = Earth Moon Distance when the moon be in total solar eclipse most far point.
- III. **Moon Orbital Distance** =384000 km (A Registered Value)
- IV. **Apogee radius** =406000 km = Earth Moon Distance to apogee point which is the most far point the moon can reach from Earth.

**We have noticeable data in following:**

**I- Perigee radius**  $(363000)^2 + (86000)^2 = (378000)^2$  (total solar eclipse radius)

**II- Total solar eclipse radius**  $(378000)^2 + (86000)^2 = (384000)^2$  (Moon orbital distance)

**III- Moon orbital distance**  $(384000)^2 + (86000)^2 = (397000)^2$  unknown point

**IV- (397000)<sup>2</sup> unknown point + (86000)<sup>2</sup> = (406000)<sup>2</sup> Apogee Radius**

The previous calculations aren't so accurate – because it's a simple description – in this paper we will analyze these calculations to be more clear and accurate- any way the conclusion will be the same –

Why Moon motion basic points are defined based on each other by using Pythagoras rule? Why all points uses this same contact (86000 km) –

**Note Please** / Apogee Perigee Distance =43000 km = 0.5 x 86000 km

Shortly

The moon motion is defined based on many geometrical players interactions- which we try to explain in this paper

**2- Methodology** (methodology is repeated in all papers) please review

Why Saturn Orbital Distance = Saturn Uranus Distance? (II) <http://vixra.org/abs/1910.0078>

### 3- Moon Orbital Motion Direction

- 3-1 Moon Orbital Motion Theory (Revision)
- 3-2 Moon Motion Theoretical Direction
- 3-3 Moon Months Analysis
- 3-4 Moon Motion Main Points Analysis

#### 3-1 Moon Orbital Motion Theory (Revision)

We have to review the moon orbit suggested theory before to analyze it – let's review it in following..

- The moon moves 2.58 mkm per solar day equal to Earth motion distance (2.58mkm) per solar day – and by such way – the moon and Earth will not be separated from Each other during their motions course
- The Moon motion manner is similar to Earth Manner Motion – as Earth revolves around the sun and moves with straight trajectory approximately inclines with less than 1 degree daily (0.985 degrees per solar day) –the moon motion is similar to that.
- We know that there are relativistic effects in the solar system which cause different length contraction rates which are  $(1.0725 - 7.1 - 71 - (7.1)^2 - (71)^2)$  We had discussed the relativistic effects in the solar system frequently before and provided many proves about them. Please review (Relativistic Effects Discussion) <http://vixra.org/abs/1907.0523>
- The length contraction effect with rate 1.0725 effect on The Moon Daily Motion which is (2.58 mkm) to contract it and be = (2.41 mkm)
- Because the moon daily motion is contracted from 2.58 mkm to 2.41 mkm – that causes **A Difference In Velocities Between Earth And Moon Motions** – so they don't move by equal velocities after the contraction effect.
- We may remember Einstein rock which he left to drop from the moving train- where Einstein have seen the rock dropped in straight trajectory of motion but the people on platform have seen the rock moves in parabola (why the motion trajectories are different? Because there's a difference in velocities between the moving train and the platform)
- Similar to that –**There's A Difference In Velocities Between Earth And Moon Motions**– where the moon motion should be in straight trajectory (inclining with 0.985 degrees) as similar to Earth motion– but the difference in velocities causes the moon motion **To Be Seen In Parabola Form**.
- Now the moon contracted motion distance =2.41 mkm and is done in parabola form –based on that the moon must be separated from Earth during their motions course.

- The **Masses Gravity** forces effect on the moon and force him to move an additional distance =88000 km daily (The Moon Daily Displacement)
- Because the solar system is one machine – the distance 88000 km = the moon daily displacement – will be used to produce the required distance which equal = 176000 km – this is the required distance to be added to 2.41 mkm to produce 2.58 mkm = Earth Motion Daily to guarantee the moon and Earth will not be separated from each other -

i.e.

- The solar system geometrical mechanism uses 88000 km to produce the value 176000 km – means – the moon moves 88000 km only but it accounted for him as 176000 km by the solar system geometry effect
- The production of the distance 176000 km from 88000 km proves that – the solar system is one machine or one building (1<sup>st</sup> hypothesis) -and – the solar planets move together as a train moves with its carriages (**The Train Motion Concept**) (2<sup>nd</sup> hypothesis)
- The moon contracted motion (2.41 mkm) is done in parabola form – that means – the additional motion (88000 km) (moon daily displacement) (and the result distance 176000 km)- **will be done also in parabola form** – which creates the elliptical form for the full cycle (27.3 days) (Moon Orbital Motion)
- Because the moon daily displacement (88000 km) is done in parabola form- for that reason – the moon orbital motion will be seen in elliptical form
- Based on that – the final distance (2.41 mkm+ 2 x 88000 km =2.58 mkm) – this distance (2.58mkm) will be seen also in elliptical form – **That's why the moon orbital circumference at apogee radius (r=0.406 mkm) =2.58 mkm = Earth Daily Motion.**

The previous explanation answers clearly our old question

### **Why Earth Daily Motion Distance = The Moon Orbital Circumference At Apogee Radius = Moon Daily Motion Distance?**

- How the distance 88000 km can be 176000 km? this is done by Mercury help – each 1000 km of the moon motion will be equivalent to 1 day of Mercury periods- that's why Mercury orbital period =88 days and Mercury day =176 days – this idea is discussed deeply in the previous paper – please review

Moon Orbital Motion Analysis <http://vixra.org/abs/1910.0080>

Please review also

Time And Distance Equivalence (Proves) <http://vixra.org/abs/1904.0125>

### 3-2 Moon Motion Theoretical Direction

My suggested moon orbital motion theory provides a general vision for the moon motion – but - this theory depends on one basic point only –

#### The Difference In Velocities Between Earth And Moon Motions...

This is the main point behind this theory..... the analysis is complex because the moon and Earth move really equal distances per solar day because they aren't separated from each other – but

In the same time – The moon motion trajectory form is different from Earth motion trajectory! The difference in forms tells that there's some change in motion manner between Earth and Moon – but the equal distances provides a proof of velocities equality...

So What's happening here?! Specifically how the moon defines his motion direction?

Because of this question we had to analyze the moon motion data- and then – we have discovered that the previous question isn't the only one – the moon data has hundreds of puzzles! As we have seen in this paper introduction – as example- the moon motion basic points are defined relative to each based on Pythagoras rule- and what's geometrical reason behind that?

Now how we will start..?

#### What Factors We Have In Our Hands?

- 1- The Moon Should Moves with A motion Manner Similar To Earth Motion Manner- That Means The Moon Should Moves With Straight Line Inclining By **0.985 Degrees** On Horizontal Per Solar Day.
- 2- There's a difference in velocities between Earth and moon motions – Earth Motion Distance =2.58 mkm but moon motion distance =2.41 mkm – based on this difference in velocity the straight line trajectory will be seen in parabola form –the equation which transforms the straight line into parabola should take into consideration the first angle (0.985 degrees) to be used in the new parabola trajectory.
- 3- Based on these 2 factors – the moon motion has a direction – so the masses gravity should depend on this direction to define the moon daily displacement direction (88000 km) – the masses gravity motion direction should depend on the previous to factors because both motions distances are added to each other.
- 4- By such way we may define clearly the moon motion
- 5- But not very accurate – because – the moon orbit regresses yearly 19 degrees – this process is done by **Effect Of Venus** on the moon motion – So the moon motion trajectory definition should take into consideration the moon orbit regression which effects on the moon orbital motion.

What's the useful point in my suggested theory...? Now we know that – the theory depends on the velocities difference concept – but what a big deal of it – what's the additional useful result which we get from this theory?

### Shortly

The theory tells– **Earth And Moon Motions Are Consisted Together One Motion**

Because I analyze the planets data – I found many ideas have no clear description- so I try to create a suitable description for them – from these ideas – I have found the one unified motion...what does mean this sentence "A Unified Motion"?

Earth and Moon consist one system as 2 gears in one machine of gears! This description is almost refused because of the space between 2 planets – there's no concept may suggest that **The Space Transports The Motion...**

But the data left no doubt! We have to develop our geometry to find a proof that the space can transport the motion – this fact is doubtless – the data proves

### Data

1. Earth daily moves a distance = 2.58 mkm = 0.985 degrees to complete 360 degrees in 365.25 days... i.e. Earth during 29.53 days move **29.2 degrees**

And

2. The moon moves daily 2.58 mkm but the moon during the day moves 13.18 degrees to perform 360 degrees during 27.3 days

Means

- The moon during 29.53 days move a distance = 389.2 degrees

389.2 degrees – 360 degrees = **29.2 degrees** ....Why these values are equal?

### More Data

**Metonic Cycle Period 6939.75 days** = 19 x 365.25 days (Sidereal Days)  
= 235 x 29.53 days (Lunar Synodic Month)  
= 20 x 346.6 days (Nodal Year)

**Saros Cycle Period 6585.321 days** = 241 x 27.32 days (Lunar Sidereal Month)  
= 19 x 346.6 days (Nodal Year)  
= 223 x 29.53 days (Lunar Synodic Month)

Earth and Moon motions with the moon orbit regression are in harmony together How these 3 motions are in harmony? It's one motion even if seen in 3 planets (gears) they must be moving relative to each other... the space does an important role in this process –

Any way we have general instructions how to define the moon motion direction

### 3-3 Moon Months Analysis

#### I- Data

- 1- Moon synodic Month =27.3 day
- 2- Moon sidereal Month =29.53 day (the difference  $29.53-27.3 = 2.23$  days)
- 3- Earth Sidereal Year =365.25 days
- 4-  $365.25 \times 27.3 = 10000$

#### II- Discussion

Why the difference between 2 lunar months = 2.23 days =29.53 days - 27.3days?

How can we understand that??

First let's remember the research 5 hypothesis – in following-

#### Research Hypotheses

*Hypothesis No.1:* Solar System is One building (or one machine) and each planet is a part of this same building.

*Hypothesis No.2:* Solar System moves as a train. i.e. A train moves with its carriages together, similar to that – Solar Planets move together as one train in one unified motion i.e. No Planet moves individually or independently from other planets motions (I call this idea "**The Train Motion Concept**")

*Hypothesis No.3:* Planet motion for 1 solar day depends on energy of light motion for 1 second period – that means – Planet moves following light motion – i.e. – Planet motion shows double motions – (1<sup>st</sup>) Light Motion (2<sup>nd</sup>) Its Follower Planet Motion

*Hypothesis No.4:* Solar System Unified Motion depends On Solar Day Period

*Hypothesis No.5:* Matter Creation process depends on solar day period of time – that means – Matter creation process depends on the time as one of its main components

#### Explanation

2<sup>nd</sup> hypothesis tells us that – the solar system moves as a train – based on that – the solar system moves a distance =1433.5 mkm per solar day (1433.5 mkm =Saturn Orbital Distance)

Means

(1)

The solar system passes a distance =1433.5 mkm = Saturn orbital distance during a solar day (=86400 seconds)

(2)

The solar system passes a distance =2872.5 mkm = Uranus orbital distance during 2 solar day (=86400 seconds x 2)

We have explained that both distances (1433.5 mkm and 2872.5 mkm) create interacting effect on the on Earth Moon motion – but how this effect is seen in the moon orbit...?

Let's try to discover that in following...

This triangle is a symbol only

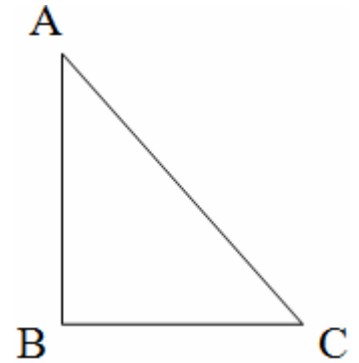
1433.5 mkm = Saturn orbital distance = BC = 1

2872.5 mkm = Uranus orbital distance = AB = 2

$AC = (5)^{0.5} = 2.236$  (I)

But we know that

29.53 days – 27.3 days = **2.23** days (II)



What we can conclude from these 2 Equation (I) and (II) ??

**Conclusions:**

(1)

The difference in 2 lunar months depends on Saturn & Uranus interacting effects on Earth Moon Motion

(2)

The Moon motion basic points are created based on Pythagoras rule because – Pythagoras rule controls most of the planet motion data...

This rule is found as a result of Saturn and Uranus effects on the moon motion!

Let's see how Pythagoras rule defines the moon motion main points in following...



### 3-4 Moon Motion Main Points Analysis

#### I- Data

Let's review these main points

- ❖ Perigee radius = 363000 km
- ❖ Total solar eclipse radius = 378000 km
- ❖ Moon Orbital Distance = 384000 km
- ❖ Apogee radius = 406000 km

#### Pythagoras rule

- 1- **Perigee radius**  $(363000)^2 + (86000)^2 = (378000)^2$  (total solar eclipse radius)
- 2- **Total solar eclipse radius**  $(378000)^2 + (86000)^2 = (384000)^2$  (Moon orbital distance)
- 3- **Moon orbital distance**  $(384000)^2 + (86000)^2 = (397000)^2$  **unknown point**
- 4-  **$(397000)^2$  unknown point** +  $(86000)^2 = (406000)^2$  **Apogee Radius**

#### Note Please

The previous values aren't accurate – let's write the accurate in the following

(1)  
 $(367700 \text{ km})^2 + (86000)^2 = (377700 \text{ km})^2$

(2)  
 $(377700 \text{ km})^2 + (86000)^2 = (387250 \text{ km})^2$

(3)  
 $(387250 \text{ km})^2 + (86000)^2 = (396800 \text{ km})^2$

(4)  
 $(396800 \text{ km})^2 + (86000)^2 = (406000 \text{ km})^2$

So

$367700 \text{ km} \times 0.99 = 364023 \text{ km}$  (perigee radius = 363000 km)

$377700 \text{ km} \times 0.99 = 373923 \text{ km}$  (total solar eclipse = 374250 km)

$387250 \text{ km} \times 0.99 = 383378 \text{ km}$  (moon orbital distance = 384000 km)

(396800 km is unknown distance)

The only direct distance is 406000 km but the others are defined based on the rate 99% - we know the difference 1% is NOT an error in measurement but found by geometrical reason –

how we know that? because we faced the rate 0.99 frequently –let's write more data

More data

17.4 deg. (inner planets orbital inclinations total)  $\times 0.99 = 17.2$  deg. (Pluto orbital inclination)

23.6 deg. (outer planets orbital inclinations total)  $\times 0.99 = 23.45$  deg (Earth axial tilt)

28.66 deg.  $(180 \text{ degrees} / 2\pi) \times 0.99 = 28.3$  degrees (Neptune axial tilt)

## **II-Discussion**

Why the moon motion main points are defined based on Pythagoras rule?

As we see – the points are defined relative to each other with using the same constant =86000 km

Where 43000 = the distance between perigee and apogee = the distance which the moon can move through – where the moon can't be nearer than Perigee nor further than apogee...

I wish the data shows clearly that **There's A Geometrical Reason** for Pythagoras rule using here

And the reason we have seen in the previous point – where Saturn & Uranus interacting effect causes to use Pythagoras rule to define the moon 2 months periods

## **Conclusion**

Saturn & Uranus effect on the moon motion is seen in the moon orbital motion

## **Note please**

The moon orbit & motion data is so complex and need a great extension

Please review

Earth Moon Orbit Triangle Analysis (Revised) <http://vixra.org/abs/1907.0627>

For moon orbit regression please review

Why does Earth Moon Orbit regress? <http://vixra.org/abs/1909.0064>

Why Does Earth Moon Orbit Regress? (Part II) <http://vixra.org/abs/1909.0107>

## **Moon motion through its main points**

Because the main points are defined based on each other we may conclude that the moon motion is done by a similar method – and that means the moon moves from one point to the other during his motion according to the geometrical structure which creates theses points and its effect on the moon motion

That mean – the moon motion explanation needs more deep discussion – and this paper should be considered as an introduction to it only