**Why Mercury Day Period = 2 Mercury Orbital Periods = 3 Mercury Rotation Periods? (Theoretical Analysis)**

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The Assumption Of S. Virgin Mary -Written in Cairo – Egypt – 29th October 2019

**Abstract**

The paper title provides a clear question… and I wish to provide the answer directly

**Why Mercury Day Period =2 Mercury orbital periods =3 Mercury rotation periods?**

Because

1- Mercury moves during its Day Period (175.94 solar days) a distance = 720.7 mkm= Mercury Jupiter Distance

2- In Jupiter full revolution around the sun (360 degrees) the distance 720.7 mkm is seen 2 times along Jupiter orbital diameter – that means – a distance = 1441.4 mkm – and Mercury moves this distance in 2 Mercury Days (=351.9 solar days)

3- We know that – the solar system is one building each planet is a part of it – and the solar system moves as a train (all carriages move together) – similar to that all planets move together in one unified motion – the planets velocities difference doesn't disprove this idea because planets velocities are complementary to each to produce one unified general motion as any machine of gears

4- The solar system moves (All Planets Together) a distance = 1433.5 mkm = Saturn orbital distance Per A Solar Day

5- So Mercury Motion Distance during 2 Mercury Days = The Solar System motion distance in 1 Solar Day – that supports the claim "2 Mercury Days Are Used To Produce 1 Solar Day"(Please review Mercury Day Period (Short Discussion) (I &II) (The Links are In Paper References)

i.e.

6- Mercury moves during 2 Mercury days (=351.9 solar days) a distance =Saturn Orbital Distance =1433.5

7- We have agreed that – Uranus Orbital Distance is created as 2 days of the solar system motion – and we have suggested that – the solar system geometry building needs 2 days of the solar system motion – means – needs 2872.5 mkm = Uranus Orbital Distance – and to pass 2872.5 mkm Mercury has to move along 4 Mercury Days period (703.76 solar days)

8- Again in full revolution Uranus orbital distance is used 2 times along Uranus orbital diameter where the total distance = 2872.5 mkm x 2 = 5745 mkm – to pass this distance Mercury has to move a long 8 Mercury Days (1407.6 solar days)

9- Mercury rotation period = 1407.6 hours! What’s going on here?!!
Paper Discussion

What's happening here?! let's move step by step to see that in following!

Why we need the value 5745 mkm?

Because the solar system building depending on 2 Solar Days of the motion and per solar day the solar system moves 1433.5 mkm – so 2 days perform Uranus orbital distance 2872.5 mkm – and Uranus orbital diameter =5745 mkm which is a necessary for our discussion because based on Uranus Orbital Diameter the full revolution around the sun will be performed- we agree that the solar system is a train – moves with all carriages together – so if any planet revolves around the sun means all planets did that also – so If Uranus revolves around the sun – this is a full revolution for the solar system around the sun – that's why the value 5745 mkm is so effective.

Why Mercury has to move this distance?

Because the solar system is one train – all planets move together as carriages – if Uranus revolves around the sun – that means Mercury also will revolve around the sun – because it's a general motion of the system-
So
Mercury moves the distance 5745 mkm during a period = 1407.6 Solar Days (A)
But
Mercury Rotation Period = 1407.6 hours …….. (B)
Each one solar day in (A) equal one hour in (B)
That means
The output of (A) is used as input in (B) -
Let's try to see as clear as possible what's happening here - Mercury uses a different rate of time – the solar day on Earth almost equal one hour on Mercury –so we have 2 rates of time to deal with – Earth Rate Of Time And Mercury Rate Of Time – let's discuss that in following:

The Solar System Rates of Time

Let's remember what we know already
10921 km (Earth Moon circumference) x 86400 s (solar day) = 940 mkm (Earth orbital circumference)
This equation we keep by heart – it tells – If Earth revolves around the sun in one solar day only – so the moon circumference will be = a distance of 1 second of its motion…
But Earth revolves around the sun a complete revolution in 365.25 solar days – so – this equation tells a bout another rate of time – we have concluded that this rate of time is the sun rate of time–means 1 solar day on the sun= 365.25 solar days on Earth
Means the rate is

1: 365.25

Now Mercury tells us about another rate of time
**Mercury Rate Of Time**

1 solar day on Earth = 1 hour on Mercury

Means the rate is \(1:24\)

But

The solar system is one machine – that means – all rates of time work in the same machine – means

<table>
<thead>
<tr>
<th>The Sun Rate Of Time</th>
<th>Mercury Rate Of Time</th>
<th>Earth Rate Of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15.2</td>
<td>365.25</td>
</tr>
</tbody>
</table>

Means

1 solar day on the sun = 15.2 solar days on Mercury = 365.25 solar days on Earth

It's a machine of gears – aims to transport the rates of time from planet to another – Why? We know the answer…

**Research 3\(^{rd}\) hypothesis**

**Planet Motion for 1 solar day depends on light motion for 1 second period**

So how motion in 1 second can push a planet to move for 1 solar day?

Because the rates of time are transported from planet to another in gears series starting from 1 second and finishing to 1 solar day

Let's return to the data (A) and (B)

Mercury moves a distance 5745 mkm during a period = **1407.6 Solar Days** (A)

But

Mercury rotation period = **1407.6 hours**  .......... (B)

What do this data tell us?

**8 Mercury Days Period =1407.6 Solar Days And Mercury Rotation Period = 1407.6 hours!**

That explains why Mercury day Period = 3 Mercury rotation periods – because the solar days has 24 hours – **Means 24 = 3 X 8**

Now

We know Why Mercury Day Period = 3 Mercury Rotation Periods …. But why the number 8 is so specific one?

To pass Mercury Jupiter Diameter (1441 mkm) – Mercury moves along 2 Mercury Days period (= 351.9 solar days)

Now I have supposed that 351.9 solar days = Earth sidereal year 365.25 solar days where the difference (13.37 solar days) is found because of some geometrical necessities

But Earth has a cycle of 4 years \((365+365+365+366 = 1461\text{ solar days})\)

Means the full cycle needs **2 Mercury Days x 4 = 1407.6 Solar Days**
What does that mean?

Mercury moves a full cycle = 8 Mercury days = 1407.6 solar days and this full cycle 1407.6 solar days is used by Mercury himself as Mercury rotation period 1407.6 hours – that means Mercury has a machine works by itself to create a different rate of time – this machine produces 1407.6 solar days in a full cycle and uses this output as 1407.6 hours

The machine still needs analysis to see how the input & output work
But we know now that – the input in Mercury time machine is 8 Mercury Days and the output is 1407.6 hours (Mercury rotation Period) – this complex puzzle is a great treasure because it will tell us how the rates of time are created and transported from planet to another – so more analysis we need to do to see how this machine works
Now let's ask the second question

**Why Mercury Day Period = 2 Mercury Orbital Period?**

We know this answer – because the moon moves daily 88000 km (the moon daily displacement) and the moon motion needs 176000 km to be completed as we have discussed in "The Moon Orbital Motion Analysis" (links are in paper references) So

88000 km at the moon are seen as 88 soar days at Mercury (Mercury Orbital Period) And Mercury day period 175.94 solar days will be seen as 176000 km at Earth Moon motion…

This strange idea we have discussed before deeply – but if so must be there's a relationship between Earth moon and Mercury data …. is it found?

(The Moon Axial Tilt 6.7 Deg/ The Moon Orbital Inclination 5.1 Deg) = (Mercury Orbital Period 88 Solar Days / Mercury Rotation Period Solar 58.66 Days)

**References**