1	Causes of celestial motion
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12	Abstract
13	The purpose of this research is to study the causes of celestial motion.
14	For the method, Earth, Venus, and the Sun were investigated.
15	As a result. In celestial bodies such as the Earth, current flows due to the temperature difference, this
16	current generates a magnetic field, and this magnetic field generates rotational force to rotate the
17	celestial body.
18	The conclusion is that the current of the celestial body generates a magnetic field to make the
19	celestial body rotate.
20	That is, the temperature difference of the celestial body generates kinetic energy of the celestial
21	body.
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23	Keywords: magnetic field, geomagnetism, earth rotation, celestial motion, reverse rotating planets,
24	celestial kinetic energy
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#### 1. Introduction

The thermoelectric effect of two metals was discovered by T. J. Seebeck, a German physicist.<sup>1</sup>

The thermoelectric effect of nonmetals and general materials was researched by Korean electronic engineer Dong-il Song<sup>2</sup>.

In the celestial body, an electric current flows due to the temperature difference, this electric current generates a magnetic field, and this magnetic field generates a rotational force.

The celestial body rotates, and due to this rotational motion, it generates electricity similar to an electric generator, and additional current is generated.

In the case of the Earth, an electric current flows due to the temperature difference in the Earth, and this current generates a magnetic field; this magnetic field generates a rotational force, and the Earth rotates.

Due to this rotational motion, electricity is generated like an electric generator, and additional current is generated.

The Earth is in the form of a combination of an electric motor and generator and continues to generate a magnetic field.

Earth's material is magnetically loaded by the Earth's current to become a permanent magnet, and an additional magnetic field is generated by the electric current developed by the Earth's rotational motion, making the Earth like a magnet.

That is, it becomes as if a permanent magnet and an electromagnet were combined.

In the case of the sun, a strong magnetic field is generated by the temperature difference of the sun.

The conclusion is that the temperature difference current of the celestial body generates a magnetic field and causes the celestial body to rotate.

A celestial body rotates like an electric motor that rotates with the power of a magnetic field.

#### 2. Causes of celestial motion

In celestial substances such as soil, a potential difference is generated due to a temperature difference and electric current flows.

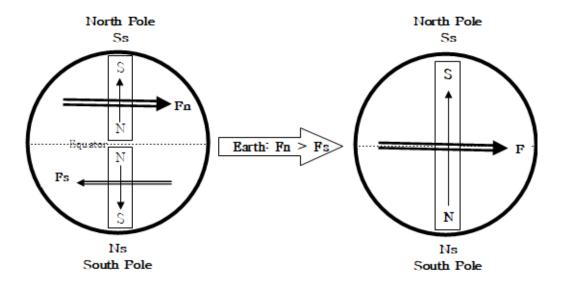


Figure 1. Earth's magnetic field and force direction.

S: S(Magnet), N: N(Magnet), Fn: Force of Northern Hemisphere magnetic field, 56 57

Fs: Force of Southern Hemisphere magnetic field, F: Force of magnetic field

Ss: Sum of Earth's magnetism (S), Ns: Sum of Earth's magnetism (N)

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- Figure 1 shows the Earth's magnetic field and the force direction of the magnetic field. 60
- In the case of the Earth. 61
  - Temperatures at the equator are high, and temperatures at the South and North Poles are low.
  - Additionally, the surface temperature of the Earth is low, and the temperature at the center of the Earth is high.
    - Therefore, current (It) flows through the earth due to the temperature difference, this current generates a magnetic field, and this magnetic field rotates the earth (Fleming's left-hand rule, motor principle).
  - The Earth rotates by the force of a magnetic field, and as it rotates, it acts as a generator, continuing to rotate as if a motor and generator were combined.
  - When the earth rotates, it acts like a generator to generate an electromotive force and an electric current (Id) flow.
- 72 The total current (I) of the Earth is I=It + Id.
- 73 Then, an electric current (I) flows through the earth, and this electric current generates a magnetic field, which rotates the earth with this magnetic field (Fleming's left-hand rule, principle of motion). 74
  - The earth rotates with the force of a magnetic field, and when the earth rotates, it acts like a generator, and the earth continues to rotate as if a motor and a generator were combined.
- The jet stream of the Earth's Northern Hemisphere flows eastward and that of the Southern 77 Hemisphere flows westward<sup>3</sup>. This is proof that the magnetic field forces rotate the jets and Earth.
- 78 In other words, the Earth's Northern Hemisphere generates forces in the east direction, whereas the 79
- Southern Hemisphere generates forces in the west direction 80

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## 3. Cause of Earth's rotation

- It is known that the Earth's rotation has been rotating since the beginning, but this is wrong.
- The force of the magnetic field in the north (Fn) is greater than the force in the magnetic field in the 84 south (Fs). 85
- Therefore, the direction of the force of the magnetic field is equal to Fn (Figure 1). 86
- So, the Earth rotates from west to east. 87
- That is, the force of the magnetic field rotates the Earth. 88

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Evidence: Because of the force (direction) of the Northern Hemisphere magnetic field, the jet stream moves from west to east in the Northern Hemisphere<sup>3</sup>.

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# 4. Causes of reverse rotating planets

- It is known that the planet's counterrotation has been counterrotating from the beginning, but this is wrong.
- Since the direction of the magnetic field of a reverse rotating planet is opposite, the direction of the 96 force of the magnetic field is also opposite. 97

Therefore, the direction of rotation of the planet (celestial body) is also opposite.

Fs > Fn is Ns(N) in the north (North pole) and Ss(S) in the south (South pole). Therefore, the direction

of the magnetic field is reversed, and the force of the magnetic field is also reversed (Figure 2).

So Venus rotates in the opposite direction.

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Figure 2 shows the magnetic field of Venus and the direction of its force.

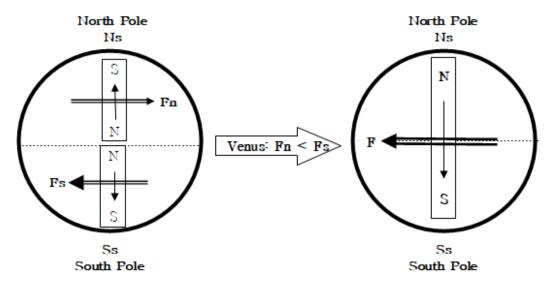


Figure 2 Venus's magnetic field and force direction.

S: S(Magnet), N: N(Magnet), Fn: Force of Northern Hemisphere magnetic field

Fs: Force of Southern Hemisphere magnetic field, F: Force of magnetic field

Ss: Sum of Venus's magnetism (S), Ns: Sum of Venus's magnetism (N)

Venus and Uranus rotate in reverse because Fs (force of Southern Hemisphere magnetic field) is larger than Fn (force of Northern Hemisphere magnetic field).

In other words, Venus and Uranus spin backwards compared to most of the other planets.

This means that on Venus and Uranus, the Sun rises in the west and sets in the east.

# 5. The cause of the planet moving to the aphelion as it orbits

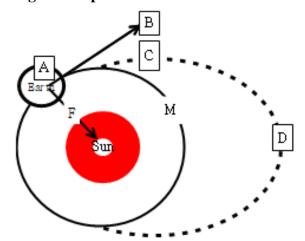


Figure 3 Earth's orbit and direction of force

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- 117 M: Magnetic field of gravitation waves, F: Gravity of the Sun, A: Location of Earth
- B: Direction of force of Fleming's left-hand rule, C: Earth's orbit
- **D: Aphelion** (Aphelion is the point on its orbit when the Earth is farthest from the Sun)

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- Figure 3 shows "The cause of the planet moving to the aphelion as it orbits"
- In the case of the Earth, the Earth orbits in the orbit of the Sun's gravitational force and the Sun's
- magnetism.
- 124 The direction of the magnetic field force of the solar gravitational wave at point "A" is the direction of
- the arrow (B) according to Fleming's left-hand rule.
- The Earth advances in an elliptical orbit to point "C" due to the direction and inertia of the force of the
- sun's gravity (F) and magnetic field.
- 128 At aphelion (D), the magnetic field strength of the solar gravitational waves is weakened.
- Therefore, due to the gravitational force of the sun, the earth moves again toward the perihelion (see
- 130 Figure 3).

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## 6. Conclusions

- 133 The kinetic energy of the celestial body is due to the temperature difference.
- 134 The temperature difference causes an electric current to flow through the celestial body and creates a
- magnetic field. Rotating celestial bodies generate gravitational waves.
- 136 The celestial body causes power generation and rotation of the celestial body as if an electric motor
- and a generator were combined.
- 138 If the magnetic field in the Southern Hemisphere of a celestial body is strong, it will retrograde like
- 139 Venus
- The universe is filled with magnetic fields emanating from celestial bodies.
- 141 This magnetic field is the medium through which light travels.

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- 143 **Data Availability:** Data supporting the findings of this manuscript are available from the
- 144 corresponding author upon reasonable request.
- Further documentation about data processing is available at Electromotive Force Generated in All
- Materials under Temperature Difference, 3-4. https://doi.org/10.21203.re.3.rs-1137728/v2

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- 148 **Code Availability:** Custom codes that support the findings of this study are available at a dedicated
- BBS repository (http://bbs.info/research/CelestialMmotion20220101.pdf)

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