

Cause of volcanoes

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Abstract

The purpose of this research is to research volcanoes and the causes of volcanic eruptions.

The method investigated the geological structure of volcanoes and the relationship between electrical energy charging and thermal energy.

As a result, the Earth rotates and functions as an electric generator.

This generator function produces electrical energy and rotates the Earth.

Therefore, the Earth continues to rotate and produce electrical energy as if an electric generator and an electric motor were combined.

Electric energy is charged to the earth.

Some of the electrical energy is converted into thermal energy.

This thermal energy gradually heats the volcanic region transition zone, causing it to rise in temperature and explode.

The conclusion is that the electric energy of the Earth's electric generator is converted into thermal energy and heats the transition zone of the volcano to cause a volcanic eruption.

Keywords: Earth generator, Earth electric generator, Magnetic field, Earth rotation, Volcano, Volcanic eruption, Hot spring, Magma

31 **1. Introduction**

32 The existing earth generator theory is the dynamo theory (the theory of geomagnetism), which is a
33 theory of rotation of the outer core inside the Earth¹.

34 The earth electric generator theory in this research is a theory that states that a very large amount
35 of electrical energy is charged to the earth as the earth itself rotates.

36 The Earth rotates at a high speed of approximately 1600 km/h (equator).

37 In other words, as the magnet rotates at high speed, electric energy is generated by the generator
38 principle.

39 Therefore, a very large amount of electrical energy is charged to the earth.

40 Some of the electrical energy is converted into thermal energy.

41 This thermal energy is related to volcanic eruptions, hot springs, and climate.

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43 **2. Investigation of past volcanic activity**

44 Approximately 30 million years ago, a disturbance in the transition zone caused an upwelling of
45 magma material to rise to the surface, forming a dormant volcano under the Atlantic Ocean and then
46 forming Bermuda.

47 Geologists have investigated the geological structure of Bermuda, which was active 30 million
48 years ago¹.

49 In this investigation, “Geologists have found a new way volcanoes form”.

50 “Scientists discover a new way volcanoes form”.

51 Water is the main substance in volcanic material¹.

52 Figure 1 shows the geological structure of Bermuda, which was volcanically active 30 million
53 years ago.

54 As shown in Figure 1, there is a “transition zone” of 250 km at depths of 410 km – 660 km below
55 the ground.

56 The “transition zone” is large enough to contain three times the water of the Atlantic Ocean.

57 This is evidence that the Earth's electrical energy is efficient in charging and converting thermal
58 energy.

59 This “transition zone” contains a large amount of water, and the “relative permittivity” of water
60 is 80, which is a good material for electric energy charging and thermal energy conversion.

61 This raises the temperature of the volcano's transition zone.

62 The Ring of Fire in the volcanic region of the Pacific Rim is the area where land and sea meet.

63 This is evidence that seawater from the sea seeps into the volcanic area underground and is
64 associated with electrical energy charging and thermal energy conversion.

65

66 **3. Earth's electric generator and volcanic thermal energy**

67 Figure 2 shows “The transition from electrical energy to thermal energy”.

68 The volcanic thermal energy is generated from the electric energy of the Earth's electric generator.
69 Earth has magnetic properties.

70 The Earth has a magnetic field in the north-south direction.

71 Earth's equatorial regions rotate at approximately 1600 km/h, and midlatitude regions rotate at
72 approximately 1300 km/h.

73 Because the Earth is magnetic and rotates, it functions as an electric generator, as in Fleming's
74 right-hand rule.

75 In other words, it produces electric energy similar to the principle of an electric generator.

76 This electric energy rotates the earth, so it functions as an electric motor.

77 As the Earth rotates, electrical energy is produced similar to an electric generator.

78 Therefore, the Earth continues to rotate and produce electrical energy as if an electric generator
79 and an electric motor were combined.

80 The transition zone material (such as water) under the volcano is composed of a material with
81 high "Relative permittivity" that is efficient for electric energy charging.

82 Salt water is a good material for charging used as an electrolyte in accumulator experiments².

83 The electric energy generated by the Earth's electric generator is charged to the Earth.

84 Most of the electrical energy charged to the Earth is converted into thermal energy through
85 internal discharge.

86 This is similar to the principle of internal discharge of a storage battery.

87 This thermal energy raises the temperature of volcanoes and hot springs.

88 The Earth's radius is 6400 km, and the Earth's transition zone is approximately 535 km deep.

89 There is a transition zone approximately 92% from the center of the Earth.

90 Volcanic magma occurs at the location of the transition zone.

91 This means that magma occurs near the Earth's surface.

92 This also means that the location of the Earth's electrical energy is 92% from the center of the
93 Earth.

94 This means that the location of the Earth's electric energy is 92% from the center of the Earth, and
95 the cause of volcanic magma can be considered to be generated by converting the electric energy
96 of the Earth's electric generator into thermal energy.

98 **4. Volcanoes and volcanic eruptions**

99 Some of the electrical energy of the Earth Electric Generator is converted into thermal energy.

100 The electric energy charged on the earth is converted into heat by internal discharge.

101 In the case of a volcano, the electric energy of the Earth's electric generator is charged in the
102 volcanic transition zone and converted into thermal energy.

103 Over time, this thermal energy gradually heats the volcano's "transition zone," causing it to rise in
104 temperature and explode.

105 The reason the volcanic cycle theory comes out, such as the volcanic eruption cycle being 50
106 years, is that it takes time for the temperature of the volcanic area to gradually rise to reach the
107 eruption.

108 The Ring of Fire in the volcanic region of the Pacific Rim is the area where land and sea meet.

109 This is evidence that seawater from the sea seeps into the volcanic area underground and is
110 associated with electrical energy charging and thermal energy conversion.

111 **5. Discussion**

112 **The temperature of the hot spring rises because sulfur hot springs are efficient in charging the**
113 **earth's generator.**

114 **There are good materials such as water for charging efficiency underground in the volcanic**
115

116 **area.**

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118 The earth has magnetic properties, and since the earth rotates at high speed, it produces electrical
119 energy like an electric generator, and this electrical energy rotates the earth, and some of the
120 electrical energy is charged to the earth.

121 Some of the electrical energy is converted into thermal energy, and this thermal energy raises the
122 climate temperature, which is the cause of volcanic eruptions, hot springs, and magma.

123 Some of the electrical energy is converted into thermal energy, which increases the temperature of
124 volcanic eruptions and hot springs.

125 The causes of volcanic eruptions in celestial bodies are the same as those of Earth. That is, the
126 rotational motion of the celestial body produces electrical energy, and this electrical energy is
127 converted into thermal energy, which causes the celestial body's volcanoes.

128 It is necessary to examine whether the reason typhoons occur in the equatorial sea is related to
129 typhoons by converting the electric energy of the Earth's electric generator into thermal energy and
130 raising the temperature of the sea.

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132 **Data Availability:** All data generated or analysed during this research are included in this manuscript.

133

134 **References**

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136 https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=298562

137 [2] Lee Miha, Electrolyte, Chemical Storage Battery Story, Jeum and moeum (2020) p58

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139 **Acknowledgement:** I thank the reviewers for reviewing this paper.

140 We would like to thank his wife, Yeongsuk Lee, and daughter, Jihyeon Song, who helped with the
141 proofreading of this thesis. I am submitting this thesis as a retired individual from the National Weather
142 Service. Therefore, we are not interested in any institution or company.

143 The cost will be paid by the author himself.

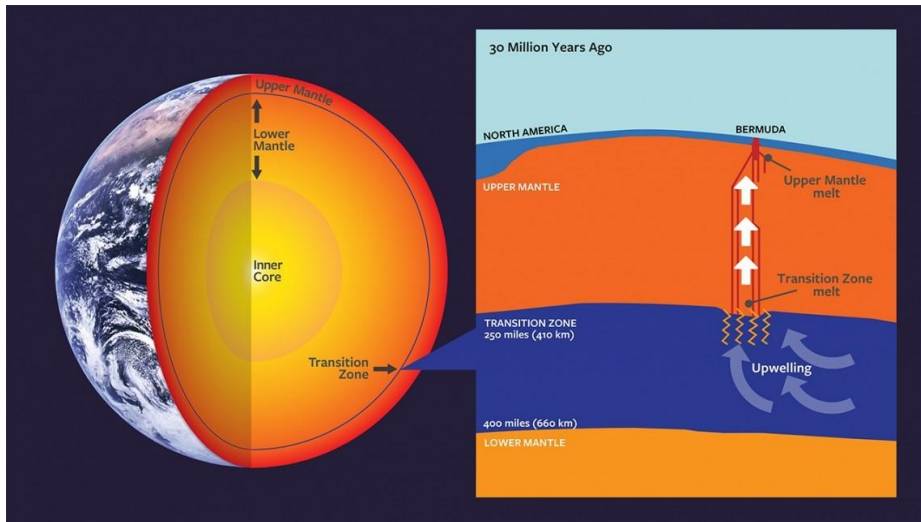
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145 **Author Contribution:** The author (Dongil Song) confirms sole responsibility for the following: study
146 conception and design, data collection, analysis and interpretation of results, and manuscript
147 preparation.

148

149 **Competing Interest:** The author declares that there is no competing interest.

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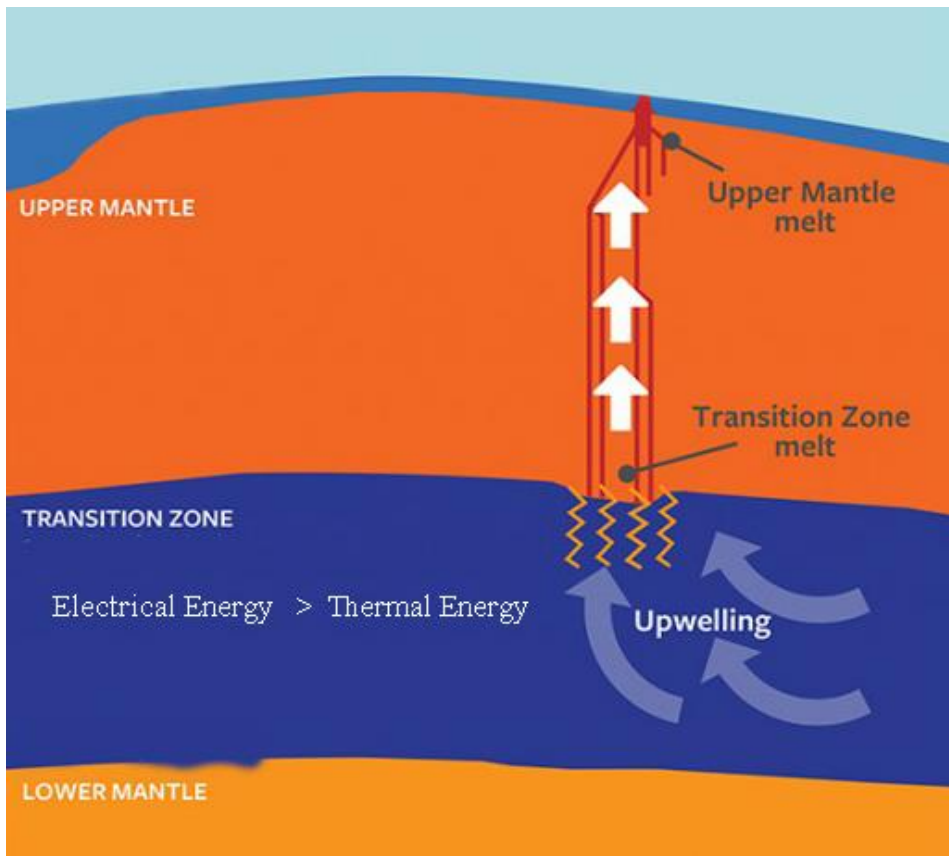


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Figure 1 Volcanic transition zone (scientists discover a new way volcanoes form)



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Figure 2 The transition from electrical energy to thermal energy

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