

## It was not switching global geo-magnetic fields that created the alternating anomalies over oceanic ridges

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### [1] Introduction

The global geo-magnetic field is said to have alternating polarity that switches every some 670 thousand years. However, such a periodically alternating global geo-magnetic field is supported only by observed local geo-magnetic anomalies. Nobody observed directly any global switching geo-magnetic field of the Earth.

The observed anomalies are not global but local. Therefore, it is not necessary to conclude that there is a switching global geo-magnetic field which has a periodically alternating polarity.

In this paper, we will present a mechanism to create the alternating geo-magnetic polarity patterns observed over the oceanic ridges. It will be clarified that it is no use to assume the hypothesis of periodically alternating polarity of the global geo-magnetic field.

### [2] Periodically Alternating Global Geo-Magnetic Field and Geo-Magnetic Anomalies

It is said that the global geo-magnetic field of the Earth has periodically alternating polarities which switched its N-pole with S-pole every some 670 thousand years. This fact is derived from the observed data of geo-magnetic anomalies over oceanic ridges and also with the empirical estimations of the age of oceanic bottom.

However, it is not global data but only local data to be observed actually. Is it enough to conclude that there is a global fact which we observed only local evidences?

### [3] Geo-Magnetic Anomalies over the Oceanic Ridges

Vine & Matthews(1963) observed actually the geo-magnetic anomalies over the oceanic ridges. They concluded that the oceanic bottom was created by lava flowed out from the oceanic ridges and the oceanic bottom was gradually extended.

According to their estimation, it takes less than 150 million years to build the oceanic bottom.

### [4] Another Mechanism by local fields

However, it is premature to conclude the existence of periodically alternating polarity of the global geo-magnetic field of the Earth. Actually, the alternating polarities of local geo-magnetic fields was created by another utterly different mechanism (Cf. Figure).

This mechanism is based on a very simple physical phenomenon. We know very well the physical fact that a magnet has necessarily two different poles, namely S-pole and N-pole, and also that a S-pole attracts N-poles of other magnets, and that a N-pole attracts S-poles of other magnets, and that magnet poles with the same charge repel each other.

We know also that the magnetic polarity comes from the magnetic polarities of atoms. Here we call the tiny magnets, composed of each atom, micro magnets. When the magnetic symmetry was broken in the cooling down iron-rich lava, that flowed out from the oceanic ridge, obeying this physical law, micro N-poles point toward the S-pole of the peripheral magnetic field and micro S-poles point toward the N-pole of the peripheral magnetic field.

As a consequence of that, the newly cooled down lava will have the reverse magnetic field to the former peripheral magnetic field.

Therefore, the secondary flowed out lava, when it is cooled down, accepts the reverse local field created by the previously flowed out and cooled down lava. This magnetizing mechanism creates obviously the alternating polarities of the local anomalies. This is the real mechanism to create the observed local geo-magnetic anomalies. In this mechanism it is possible to make not only horizontal anomalies but also vertical anomalies. That fact fits well Vine & Matthews (1963).

### [5] Global Geo-Magnetic fields Doesn't Alternate Periodically

We reached the conclusion that the hypothesis of periodically alternating global geo-magnetic polarity of the Earth should be

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rejected because it has no use and no evidence. Instead, we should accept the newly devised mechanism to create the observed local geo-magnetic anomalies over oceanic ridges.

**[References]**

[1]F. I. Vine and Dr. D. Matthews, 'Magnetic Anomalies Over Oceanic Ridges', *Nature*, September 7, 1963.

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