



Magnetic field of the Earth

Aleksey Popov
Smolensk, Russian Federation (aleksey_a_popov@mail.ru)

MAGNETIC FIELD OF THE EARTH

Popov . .

Pensioner

The magnetic field of the Earth has global meaning for a life on the Earth. The world geophysical science explains:

- occurrence of a magnetic field of the Earth it is transformation of kinetic energy of movements of the fused iron in the liquid core of Earth - into the magnetic energy;
- the warming up of a kernel of the Earth occurs due to radioactive disintegration of elements, with excretion of thermal energy.

The world science does not define the reasons:

- drift of a magnetic dipole on 0,2 a year to the West;
- drift of lithospheric slabs and continents.

The author offers: an alternative variant existing in a world science the theories "Geodynamo" - it is the theory « the Magnetic field of the Earth », created on the basis of physical laws.

Education of a magnetic field of the Earth occurs at moving the electric charge located in a liquid kernel, at rotation of the Earth. At calculation of a magnetic field is used law the Bio Savara for a ring electric current: $dB = \dots$. Magnetic induction in a kernel of the Earth: $B = 2,58 \text{ Gs}$.

According to the law of electromagnetic induction the Faraday, rotation of a iron kernel of the Earth in magnetic field causes occurrence of an electric field Emf which moves electrons from the center of a kernel towards the mantle. So of arise the radial electric currents.

The magnetic field amplifies the iron of mantle and a kernel of the Earth. As a result of action of a radial electric field the electrons will flow from the center of a kernel in a layer of an electric charge. The central part of a kernel represents the field with a positive electric charge, which creates inverse magnetic field B_{inv} and Emf_{inv}

When $mf_{inv} = mf$; $inv = B$, there will be an inversion a magnetic field of the Earth.

It is a fact: drift of a magnetic dipole of the Earth in the western direction approximately 0,2 longitude, into a year. Radial electric currents a actions with the basic magnetic field of a Earth - it turn a kernel. It coincides with laws of electromagnetism.

According to a rule of the left hand: if the magnetic field in a kernel is directed to drawing, electric current are directed to an axis of rotation of the Earth, - a action of force clockwise (to West).

Definition of the force causing drift a kernel according to the law of Ampere $F = IB_{l\sin}$. Powerful force $3,5 \cdot 10^{12}$ Nton, what makes drift of the central part of a kernel of the Earth on 0,2 the longitude in year to West, and also it is engine of the mechanism of movement of slabs together with continents. Movement of a core of the Earth carry out around of a terrestrial axis one circulation in the western direction in 2000 of years. Linear speed of rotation of a kernel concerning a mantle on border the mantle a kernel: $V = 3,471 \cdot 10 = 3,818 \cdot 10 \text{ m/s} = 33 \text{ m/day} = 12 \text{ km/years}$.

Considering greater viscosity of a mantle, the powerful energy at rotation of a kernel seize a mantle and lithospheric slabs and makes their collisions as a result of which there are earthquakes and volcano.

Continents Northern and Southern America every year separate from the Europe and Africa on several centimeters. Atlantic ocean as a result of movement of these slabs with such speed was formed for 200 million years, that in comparison with the age of the Earth - several billions years, not so long time.

Drift of a kernel in the western direction is a principal cause of delay of speed of rotation of the Earth.

Flow of radial electric currents allot according to the law of Joule - Lenz, the quantity of warmth: $Q = I^2Rt = IUt$, of thermal energy $6,92 \cdot 10^{17}$ calories/year. This defines heating of a kernel and the Earth as a whole. In the valley of the median-Atlantic ridge having numerous volcanos, the lava flow constantly thus warm up waters of Atlantic

ocean. It is a fact the warm current Gulf Stream.

Thawing of a permafrost and ices of Arctic ocean, of glaciers of Greenland and Antarctica is acknowledgement: the warmth of earth defines character of thawing of glaciers and a permafrost. This is a global warming.

The version of the author: the periods of inversion of a magnetic field of the Earth determine cycles of the Ice Age. At inversions of a magnetic field when $B=0$, radial electric currents are small or are absent, excretion of thermal energy minimally or an equal to zero, it is the beginning of the cooling the Earth and offensive of the Ice Age. Disappearance warm current Gulf Stream warming the north of the Europe and Canada.

Drift of a magnetic dipole of the Earth in a rotation the opposite to rotation of the Earth, is acknowledgement of drift of a kernel of the Earth in a rotation the opposite to rotation of the Earth and is acknowledgement of the theory « the Magnetic field of the Earth ».

The author continues to develop the theory « the Magnetic field of the Earth » and invites geophysicists to accept in it participation in it.