

Role of Geospot in explaining the Dynamic processes of Earth

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The tenable source of enormous amount of energy needed for the geodynamic processes is still little understood. In order to sort out this enigma, the plausible sources of required energy that have been invoked from time to time are : i) Radioactive decay of element like K40, ii) Latent heat released by crystallisation of Fe-Ni on the surface of the inner core, iii) Gravitational energy released by sinking of Fe to the centre, iv) Thermal energy released by Planetesimal particles during accretion and v) Frictional heat evolved during migration of material that constitutes the internal structure of earth. But these sources which exhibit a linear thermal behaviour could not justify the origin of discontinuous, cyclic as well as episodic character of various geological processes, such as, plate tectonics, volcanism, expansion sialic thickening, convective plumes, etc.

In order to discern the magnificent heat source in explaining the geodynamic processes, we have, in this present paper, hypothesised the formation of a Geospot in the core-mantle boundary of earth. A Geospot which is presumed to be a zone of strong magnetic field undergoes the various evolutionary changes like its growth and decay phases synchronising the rhythm of common geological periods. The annihilation of magnetic field of a Geospot by the process known as 'Magnetic reconnection' by which magnetic energy is converted to heat energy has been found to fulfill the energy requirement of various geodynamic processes.