

## IGGUME- Idea of geomagnetism-cum-geospot for understanding the mechanism of earthquake

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Idea of Geospot has been developed from Geomagnetism for explaining the internal dynamics of earth, such as, mantle convection leading to plate motion, as a consequence of which earthquake occurs. A Geospot is a zone of strong magnetic field formed at the boundary of outer core and mantle, known as D- region . Energy evolved out of the destruction of magnetic field by the process of magnetic reconnection is utilised for supplying energy for effecting the internal dynamics of earth. Plate motion is sustained by the mantle convection which is energetically feasible due to the energy evolved out of the annihilation of magnetic field of a Geospot.

If a Geospot happens to be present below a fault plane, thermal stress is developed in the fault due to the energy evolved out of the annihilation of magnetic field. Rupture occurs, when the stress exceeds the critical value, i.e., when the breaking of crustal rocks constituting the plate is reached. As a result of this rupture there is a violent displacement on a fault plane which produces the compression in one part and dilation in the other. This sort of contraction and dilation helps to generate charges appearing on the rocks due to Piezoelectric effect. These charges flow through the conducting path developed in between two consecutive horizontal layers, thus forming two plates of a capacitor. These charges produce oscillating current on passing through the conducting path and give rise to electromagnetic emissions which are detected with the help of antenna during earthquakes.

### Biography

Tushar Kanti Das was Associate Professor and Head of Physics Department in a college under University of Calcutta and after retirement, acting as a Co-Investigator of a research project in the same University. He has done about 120 research papers out of which 60 papers were published in national and international referred journals and the rest were presented in seminars/symposia held in India and abroad. His current research interest is seismic electromagnetic waves which are generated during earthquakes. He introduced the new terminology 'Geospot' in Earth Sciences similar to that of sunspot in solar sciences.

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