

Earth's Magnetic Memory: The Essence, Mechanisms, and Applications of Paleomagnetism

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The paper addresses the essence of paleomagnetism, its significance, and its applications in the study of Earth's history. Paleomagnetism is a method that enables the reconstruction of Earth's past magnetic field and geological processes based on the magnetic information preserved in rocks. The main types of remanent magnetization and the methods used to obtain paleomagnetic data are discussed.

The study describes the application of paleomagnetism in geological dating, magnetostratigraphy, and archaeology (archaeomagnetism). It also presents the role of paleomagnetic data in the development of the theory of continental plate motion. In the concluding section, the importance of paleomagnetism is emphasized as a multidisciplinary tool that makes a significant contribution to the study of Earth's geological evolution