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Nota di contenuto	Methods -- Syntactic classifications of time series -- Fuzzy logic approach to classification -- Discrete Mathematical Analysis and clustering -- Intellectual Geographic Information Systems.-Fuzzy Logic Algorithmic System for Anomaly Recognition (FLASAR) -- Data and applications -- Aeromagnetic surveys: spatial magnetic anomalies recognition -- GIS data layers: world magnetic atlas -- Electromagnetic data: monitoring of volcanic activities -- Geodynamics -- Seismological data -- INTERMAGNET observations and data processing -- Extreme events (Xevents).
Sommario/riassunto	Geomagnetic field penetrates through all shells of the solid Earth, hydrosphere and atmosphere, spreading into space. The Earth Magnetic Field plays a key-role in major natural processes. Geomagnetic field variations in time and space provide important information about the state of the solid Earth, as well as the solar-terrestrial relationships and space weather conditions. The monograph presents a set of fundamental and, at the same time, urgent scientific problems of

modern geomagnetic studies, as well as describes the results of the authors' developments. The new technique introduced in the book can be applied far beyond the limits of Earth sciences. Requirements to corresponding data models are formulated. The conducted experimental investigations are combined with development and implementation of new methods of mathematical modeling, artificial intelligence, systems analysis and data science to solve the fundamental problems of geomagnetism. At that, formalism of Big Data andits application to Earth Sciences is presented as essential part of systems analysis. The book is intended for research scientists, tutors, students, postgraduate students and engineers working in geomagnetism and Earth sciences in general, as well as in other relevant scientific disciplines.