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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1. Advances in classical statistics relevant to the geosciences -- 2. Frontier statistics -- 3. Compositional data analysis applied to geochemistry -- 4. Data assimilation in geosciences -- 5. Machine learning in geoscience applications -- 6. Spatiotemporal analysis: structural complexity and extreme behaviour. -7. Parameterization of soil systems at different scales -- 8. Fractals, chaos and complexity in the earth system -- 9. Remote sensing a changing world -- 10 Radar remote sensing for the detection, monitoring and modelling of ground instabilities -- 11. Geographic information systems/geoinformatics -- 12. Quantitative methods in geomorphology and land surface

processes -- 13. Deformation modelling, geodynamics and natural hazards -- 14. Hydrogeology: From process understanding to improved predictions -- 15. Quantitative hydrology: working across scientific disciplines and time space scales -- 16. Quantitative environmental geology -- 17. Modelling of energy resources -- 18. New developments in oil and gas discovery modeling -- 19. Open session on mathematics of oil recovery -- 20 Geostatistical priors in inversion of geophysical and engineering data -- 21 Mineral and energy resources for planet earth: Evaluation, extraction and optimal management -- 22 Recent advances in quantitative methods applied to stratigraphy and paleontology -- 23 Geo-mathematical models of folds and folding -- 24. Mathematical geosciences and planetary geology -- 25. Mathematics of planet earth -- 26 Geoscience data models for practical interoperability -- 27. Advances on stochastic non linear methods and inverse problems for dynamic models.

Sommario/riassunto

It is widely recognized that the degree of development of a science is given by the transition from a mainly descriptive stage to a more quantitative stage. In this transition, qualitative interpretations (conceptual models) are complemented with quantification (numerical models, both, deterministic and stochastic). This has been the main task of mathematical geoscientists during the last forty years - to establish new frontiers and new challenges in the study and understanding of the natural world. Mathematics of Planet Earth comprises the proceedings of the International Association for Mathematical Geosciences Conference (IAMG2013), held in Madrid from September 2-6, 2013. The Conference addresses researchers, professionals and students. The proceedings contain more than 150 original contributions and give a multidisciplinary vision of mathematical geosciences.
