



Geophysics of the lithosphere and nonlinear metallogeny in Bulgaria

Геофизика на литосферата и нелинейна металогения на България

Dimcho Yosifov¹, Radi Radichev², Reneta Raykova³

Димчо Йосифов¹, Ради Радичев², Ренета Райкова³

¹ Scientific and Technical Union of Mining, Geology and Metallurgy, Sofia, Bulgaria

² University of Mining and Geology “St. Ivan Rilski”, Sofia, Bulgaria; E-mail: radirad@mgu.bg

³ Sofia University “St. Kl. Ohridski”, Faculty of Physics, Sofia, Bulgaria; E-mail: rraykova@phys.uni-sofia.bg

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The authors bring to the attention of the scientific community in Bulgaria the book “Geophysics of the lithosphere and nonlinear metallogeny in Bulgaria”, printed by the publishing house “St. Iv. Rilski” in September 2020. The book is written in Bulgarian and presents a review of a number of scientific publications, monographs and papers by national and foreign researchers. The book presents also a part of the scientific studies of the authors.

The main purpose of this book is to present the achievements of the geophysical science in the investigation of the main structural features and dynamics of the Earth with an emphasis on the hard terrestrial shell – the lithosphere. The global characteristics and relations, as well as the regional and local peculiarities on the territory of Bulgaria are reviewed and summarized. In this context, the role of deep lithosphere structures is considered in the spatial distribution of large mantle deposits of non-ferrous and precious metals in Bulgaria. The volume of the book does not allow a full coverage and comprehensiveness of all treated research fields. Some of the proposed explanations and interpretations are controversial and others are hypothetical. Some problems, because of objective reasons, are still unresolved. The topic of nonlinear (mantle) metallogeny is discussed for the first time in front of the national scientific community.

The book is divided into three main chapters. The first chapter, “Overview of the studies for the structure and dynamics of the Earth”, includes: general information, theories and hypotheses on the structure, evolution and dynamics of the Earth; the theory of the plate tectonics; geophysical fields and methods; the geophysical characteristics of our planet and in particular of the lithosphere. The sec-

ond chapter, “Present conceptions about the structure and dynamics of the Earth and its lithosphere”, summarizes the present knowledge about the physical properties, the structure and the dynamics of the Earth interior as well as the main characteristics of the lithosphere beneath Bulgaria.

The third chapter, “Nonlinear (mantle) metallogeny of Bulgaria”, examines the state of metallogenic research worldwide, the structural features of the lithosphere in the regions of large mantle deposits of non-ferrous and precious metals in Bulgaria and patterns in the spatial distribution of these deposits. The inclusion of the third chapter is justified by the fact that nonlinear metallogeny is based not only on information about the structure of the Earth’s crust, but also about the lithosphere and the upper mantle.

The authors hope that the presented book may be useful for scientists in various fields of the Earth’s sciences, specialists in the mineral resources industry, as well as for MSc and PhD students in the fields of geology and geophysics.

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References

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