

图书基本信息

书名：<<中国至2050年矿产资源领域科技发展路线图>>

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## 前言

CAS is the nation's think tank for science. Its major responsibility is to provide S&T consultations for the nation's decision-makings and to take the lead in the nation's S&T development. In July, 2007, President Yongxiang Lu made the following remarks: "In order to carry out the Scientific Outlook of Development through innovation, further strategic research should be done to lay out a S&T roadmap for the next 20-30 years and key S&T innovation disciplines. And relevant workshops should be organized with the participation of scientists both within CAS and outside to further discuss the research priorities and objectives. We should no longer confine ourselves to the free discovery of science, the quantity and quality of scientific papers, nor should we satisfy ourselves simply with the Principal Investigators system of research. Research should be conducted to address the needs of both the nation and society, in particular, the continued growth of economy and national competitiveness, the development of social harmony, and the sustainability between man and nature. "According to the Executive Management Committee of CAS in July, 2007, CAS strategic research on S&T roadmap for future development should be conducted to orchestrate the needs of both the nation and society, and target at the three objectives: the growth of economy and national competitiveness, the development of social harmony, and the sustainability between man and nature. In August, 2007, President Yongxiang Lu further put it: "Strategic research requires a forward-looking view over the world, China, and science & technology in 2050. Firstly, in terms of the world in 2050, we should be able to study the perspectives of economy, society, national security, eco-environment, and science & technology, specifically in such scientific disciplines as energy, resources, population, health, information, security, eco-environment, space and oceans. And we should be aware of where the opportunities and challenges lie. Secondly, in terms of Chinas economy and society in 2050, we should take into consideration of factors like: objectives, methods, and scientific supports needed for economic structure, social development, energy structure, population and health, eco-environment, national security and innovation capability.

## 内容概要

As one of the eighteen field-specific reports comprising the comprehensive scope of the strategic general report of the Chinese Academy of Sciences, this subreport addresses long-range planning for developing science and technology in the field of mineral resources science. They each craft a roadmap for their sphere of development to 2050. In their entirety, the general and sub-group reports analyze the evolution and laws governing the development of science and technology, describe the decisive impact of science and technology on the modernization process, predict that the world is on the eve of an impending S&T revolution, and call for China to be fully prepared for this new round of S&T advancement. Based on the detailed study of the demands on S&T innovation in China's modernization, the reports draw a framework for eight basic and strategic systems of socio-economic development with the support of science and technology, work out China's S&T roadmaps for the relevant eight basic and strategic systems in line with China's reality, further detail S&T initiatives of strategic importance to China's modernization, and provide S&T decision-makers with comprehensive consultations for the development of S&T innovation consistent with China's reality. Supported by illustrations and tables of data, the reports provide researchers, government officials and entrepreneurs with guidance concerning research directions, the planning process, and investment. Founded in 1949, the Chinese Academy of Sciences is the nation's highest academic institution in natural sciences. Its major responsibilities are to conduct research in basic and technological sciences, to undertake nationwide integrated surveys on natural resources and ecological environment, to provide the country with scientific data and consultations for government's decision-making, to undertake government-assigned projects with regard to key S&T problems in the process of socio-economic development, to initiate personnel training, and to promote China's high-tech enterprises through its active engagement in these areas.

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## 章节摘录

插图：Different geological events can result in different sedimentation, metamorphism, magmatic activities and hydrothermal recycling, then induce migration, fractionation and redistribution of elements in the crust and even between crust-mantle layers, and subsequently result in the local enrichment of some useful elements and the formation of deposits. Researches on deposits related to the plate subduction and mid-ocean ridge extension have not only been a hotspot for more than fifty years, but also become an "incubator" for the new metallogenic theories and a primary driving force for making breakthroughs on mineral prospecting. The discoveries and researches of the Cenozoic deposits, including the porphyry copper, in Qinghai-Tibet Plateau, together with the studies on the metallogenesis in the Qinling Orogenic Belt and the Central Asia Orogenic Belt are pushing forward the progress of the theories of metallogenesis in orogenic belts. Researches on the origin, evolution, and sulfide segregation of the large-scale basaltic magma in the mantle plume have unraveled the myth of abnormal enrichment of copper, nickel and platinum group elements ( PGE ) in Niorirsk in Russia. It is believed to be resulted from the continuous accumulation of sulfide melts in the magma channel. A right direction for the prospecting of large-scale Cu-Ni sulfide deposits has been pointed out by this hypothesis. Furthermore, researches on the relationship between lithospheric delamination and underplating of mantle-derived magma and the large-scale granite magmatic activities and metallogenesis in eastern China, have opened a new chapter for researches of geology and mineral resourcesE41-461. With the advancement of the high- precision dating technology, some accurate data of metallogenic age implies that the large-scale metallogenesis in certain metallogenic provinces or systems often occur in a very short time period with an "explosive" feature, and close special and temporal coupling relationship with major regional geological events. Based on above discussions, to completely analyze these intrinsic correlations, to understand how major geological events result in the activation, migration, agglomeration and metallogenia, to accurately perceive the regional metallogenic regularities, and then to provide theoretical basis for mineral prospecting are important development directions for researches on deposit geology in the future.

编辑推荐

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