[EJ] Evening Poster | S (Solid Earth Sciences) | S-RD Resources, Mineral Deposit & Resource Exploration

[S-RD33]Resource Geology

convener:Tsubasa Otake(Division of Sustainable Resources Engineering, Faculty of Engineering, Hokkaido University), Daisuke Araoka(Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology), Ryohei Takahashi(秋田大学大学院国際資源学研究科, 共同), Tatsuo Nozaki(Research and Development Center for Submarine Resources, Japan Agency for Marine-Earth Science and Technology)

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Ore deposits consisting of supracrustal concentrated valuable elements and minerals result from the Earth's dynamics including magmatism, hydrothermal activity, metamorphism, and weathering. The formation of ore deposits is also closely associated with global environmental changes and biological evolution in the Earth's history. Involvement of different academic fields in Earth Science including Geology, Petrology, Mineralogy, and Microbiology is required to understand the genesis of ore deposits. The filed of Resource Geology is essential not only for efficient exploration and development of ore deposits but also for better understanding and assessment of hazardous elements that may be caused by resources development. This session widely covers various topics of field investigation and observation, laboratory experiments, theoretical calculation, development of analytical methods and others related to the supracrustal migration and concentration of elements.

[SRD33-P14]Relationship between abundances of REE-bearing minerals in granites and the ion-adsorption type ore formation: Case study of the Serra Verde deposit in Brazil

*Kenzo Sanematsu[1], Yoshiaki Kon[1], Takaomi Yokoyama D.[1] (1.Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology)

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The Serra Verde REE (rare earth elements) deposit located in Goiás and Tocantins provinces of Brazil is one of ion-adsorption type deposits found outside of China. The REE ores are weathered granitic rocks and sediments underlain by the Serra Dourada Granite consisting of alkali granite and gneissic granite. The granites are high in REE (300 – 1300 ppm, approximately) and contains different REE-bearing minerals such as bastnaesite-(Ce), allanite-(Ce), monazite-(Ce), xenotime-(Y), apatite and zircon. In this study, we report abundances of REE-bearing minerals in the granites and relationship with ion-adsorption type ore formation because a percentage of ion-exchangeable REE in the ores is influenced by assemblage of REE-bearing minerals in the parent granitic rocks.