

Anomalous characteristics of relative formation and reaction for terrestrial mineral crystals

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Mineral crystals are stored as databases in a global description with the physicochemical and earth science unit of rocks. However, description by identification of the minerals is based on the present environment through many solidified processes on active planet, where crystalline minerals reveal environmental indicator of different stages of planet Earth, together with extraterrestrial rocks originated from the Moon, Asteroids and Mars. The purpose of the present study is that minerals formed at successive planet Earth with different stages are applied to be compared with different environments of the primordial Earth and extraterrestrial bodies (with global water system or not) as follows.

1. Minerals formed on the active water planet Earth have environmental information on the time and place of generation and change and the place with different structure and composition in details. Therefore, the minerals formed on active planet Earth are all different physicochemical information without any representative mineral characteristics, but shown as only simple mineral names with bulk data.

2. Minerals formed on the Earth at different reaction time of the geological units have the same mineral name, but their physicochemical information is basically different, because of different environmental conditions to be formed on Earth.

3. If we can use same mineral names both in Earth and extraterrestrial bodies, precise compositional and structural data of minerals formed on active air- and water-planet Earth are precisely different. Therefore, any minerals formed on primordial Moon and planets without detailed material-database do not suggest past existence of global water on the extraterrestrial bodies of the Solar System.

4. The present study suggests that the minerals in the Earth are considered to be solidified remnants after evaporated and fluid processes without location of atomic sites and layer molecules, which are developed further to deep interior of largere planetary bodies.

5. Author would present the data in the JpGU-AGU 2017 meeting that the remained solids by quenched processes of the carbon-bearing grains of various Earth, Asteroids and lunar rocks showing the idea and the nano-technical images by the analytical electron microscopy relatively.

6. Elements (carbon) of volatile quench solidified material (carbon inclusions) formed in the impact process are decomposed to form the surface element-resources (diamond carbon etc.) on shallow surface to deep interior on active Earth, where real origins of the internal volatile elements of the deeper mantle rocks are relatively difficult to be determined for large planetary bodies only from present location site (esp. on many developments of deeper products).

7. The present results show that carbon-bearing solidified grains by quenching are remained at all shocked events of active young Earth and primitive extraterrestrial celestial bodies widely. When we can found carbon-bearing grains in primordial satellites and planets, they are continued to keep original grains without global ocean-water system of Earth-type planets clearly as one of new results in this study of the JpGU-AGU meeting 2017.

Keywords: Earth's minerals, Quenched solids with volatiles, Various mineral characteristics