

Brecciated materials on the Moon

Yasunori Miura[1]

[1] Earth Sci., Yamaguchi Univ

1. Lunar materials

Shocked materials on the Moon are important for next lunar exploration due to no atmosphere on the Moon.

2. Lunar breccias

- 1) Lunar history on the original rocks are changed for compositions and textures.
- 2) All elements from the Sun are survived on the lunar surface.
- 3) Many extralunar elements are stored in lunar materials by impacts.
- 4) Elements from Comet (hydrogen, oxygen, carbon) will be found in Polar Regions due to evaporated light elements by impacts
- 5) Shocked materials with carbon (carbides, carbonates) will be found on Polar Regions.

3. Future lunar exploration

Recognition of breccias on the Moon is very significant for our Japanese plan to the Moon.

4. Japanese study on shock metamorphosed materials

- 1) Shocked materials of lunar regolith show glassy texture (similar with Japanese porcelain of Hagi-Yaki et al.).
- 2) Non-liquid reaction to form carbides and carbonates in Japanese characteristics are required to find on the Lunar surface.

5. Summary

Japanese expedition to the Moon is required for study on shock metamorphism of glassy materials and carbon-bearing materials.