

## **K- metasomatism induced parting structures in K-altered rocks in Hougou area, northwestern Heibei province, China**

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We discovered a set of parting structures which have distinctive geometry and fabrics. On the basis of the analysis of types, distributions and dynamics of the parting structures, the parting structures are closely related to the relict fluids that formed in the process of K-metasomatism. The tectonic forces induced the parting structures were from the relict fluids. There is fluid mass in the fracture plane, the content of its oxides with big cation is more than that in the fluid relict pockets. Potass metasomatism is pulsatile. Every pulsation forms a new generation of K-feldspars and parting structures. With K-metasomatism going on, the K content of the new formed K-feldspar increases, and Na content decreases continuously. The type and fabric of the corresponding parting structures vary regularly.

The formation of the parting structures in the K-altered rocks in Hougou area is related to the volume expansion of metasomatic body. The Crystallization of metasomatism genesis K-feldspars is a volume expansion process, it would compress the relict fluid bodies, and the pressures in the relict fluid bodies gathered and increased. The expansion rate is about nine point five percent, the increased pressures of the fluid relict bodies is about 138Mpa which is bigger than the strength of the " K-feldspars rock". When K-feldspar crystallized completel, it was broken with the strong compression, and the parting structures formed. It is worth to point out, the fracture mechanism of rocks and minerals caused by the acting and reacting of forces is an important formation mechanism of fractures in rocks and minerals in nature.