

Change of the interfacial energy between quartz and water and its influence on the physical property of the mineral-water system

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Interfacial potential partially determines the interface energy. The piezoelectric effect can make changes of the wettability on minerals, the solution velocity and the breaking strength through the interfacial electricity.

Two kinds of experiments have been made to confirm this thinking. The movement of the water on the glass under high voltage was observed. Glasses were etched with hydrofluoric acid under high voltage and examined its influence on the solution velocity.

The results of the experiments were used to discuss the effect of piezoelectricity upon the macroscopic movement of water, the mineral solution and the mineral fracture.