

Texture in quartz-water system in relation to the piezoelectricity

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The authors have the idea that piezoelectric effect of quartz may form some texture in quartz-water system in deep crust.

Interfacial charges between quartz and water should be modified so as to compensate the piezoelectric polarization and affect the interfacial energy because interfacial charges usually lower the interfacial energy. Rough estimation shows that differential stress in 10 MPa order can considerably affect the interfacial charge. Piezoelectric effect cannot be negligible in quartz-water system because such stress can be easily realized in deep crust.

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