



Memory of clay paste visualized as crack pattern

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Clay paste can remember the direction of vibration and flow. These memories are contained as anisotropic network structure of clay particles inside paste. It is difficult to see directly microscopic network structure inside paste, but, when the clay paste is broken such as the case of drying process, these memories in paste can be visualized as morphology of macroscopic crack patterns [1].

We have two application of the memory effect of paste. First application is for engineering, where we can control the morphology of crack patterns by controlling the memory of paste [1-2]. The other application is for the field of geoscience, because by checking the crack patterns of clay paste or clay rock observed in nature, we can estimate what happened before in the history of earth.

[1] A. Nakahara and Y. Matsuo, Phys. Rev. E74 (2006) 045102.

[2] Physics Today, September 2007, p. 116.