Analysis of water permeation process in rock by X-Ray CT

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X-ray Computed Tomography (CT) is a nondestructive imaging technique, and its efficiency is widely recognized. In the present paper, X-ray CT is successfully applied for the visualization of water permeation process in rock. A new experimental technique using a tracer, which mainly consists of Potassium Iodide (KI), is proposed, together with the analysis method of the velocity field. The permeation process and the velocity field in rock are concretely visualized and analyzed by considering the conservation of mass of the tracers.