

## Quantitative interpretation of experimentally-observed poroelastic behavior of Berea sandstone in two-phase fluid system

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Deformation behavior of rocks associated with geological sequestration of carbon dioxide has been studied based on coupled processes of two-phase fluid flow and deformation of porous media (e.g., Rutqvist et al., 2010). However, it is not easy to interpret the deformation behavior because of its complexity, such as heterogeneity of rock masses. Laboratory experiment can be helpful in understanding the physical processes, and it will be useful for the interpretation of deformation behavior of rock masses in situ. Recently, Goto et al. (2014) observed the poroelastic behavior of Berea sandstone under two-phase fluid flow condition through laboratory experiments, and reproduced the experimental results by numerical simulation. In this presentation, we will interpret the experimental results obtained by Goto et al. (2014) through numerical simulations, and future subjects which are necessary for further understanding of the studied behavior will be clarified.

### References

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