Comparative study of resistivity change on supercritical CO2 injection to Berea and Tako sandstone

Yoshihiro Nakatsuka[1]; Kyosuke Onishi[2]; Yasuhiro Yamada[3]; Toshifumi Matsuoka[4]

[1] Civ.Earth Res. Eng.,Kyoto Univ.; [2] Civil & Earth Res. Eng., Kyoto Univ.; [3] Civ. Earth Res. Eng., Kyoto Univ.; [4] Kyoto Univ

When injecting CO_2, it is very important to understand behavior underground, and monitoring becomes important. When injected, CO_2becomes supercritical phase and it appears as liquid and shows character of gas. It might show complex behavior when injected underground. Furthermore, it might cause environmental damage and human damage in the case of leakage. It is very important to measure the behavior of CO_2 adequately, and a monitoring technique to detect the early stage of the leakage is needed.

In this research, the measurement experiment of resistivity change on injection of supercritical CO_2 was done by using the Berea sandstone and the Tako sandstone. The Tako sandstone contains impurities such as iron contents while impurities of the Berea sandstone are very few. Comparative study was done to know the effect of irons and others when supercritical CO_2 was injected.