614th ASRC Seminar

Date：12：50 ～ 13：20 Thursday, February 25

Location： Conference Hall, ASRC Building

Speaker： Dr. Katsufumi Hashimoto
(Hokkaido University)

Title：Solid-Liquid Equilibrium with Co-Existing Ions in Simulated Nuclear Waste Form

Abstract: Most of the low level and possibly some of intermediate level nuclear wastes are likely to be encapsulated / immobilised into stable cementitious wasteforms for long-term storage and disposal. The long-term durability of the cement products for nuclear waste applications is currently studied. Based on solid-liquid equilibrium model, sorption mechanism of nuclides on C-S-H, which is a main component of cementitious material, and leaching behavior based on Ca/Si ratio of C-S-H are also explained. Considering co-existing ions in ground water or seawater environment, equilibrium leaching tests with liquid-solid ratio (L/S) can show dissolution rate chemically from cement hardened body with co-existing ions in the real situation. In this study, leaching behaviors of Cs and Sr in ordinary portland cement and blast furnace slag powder hardened materials have been investigated. The equilibrium leaching tests have been performed on OPC/BFS (Blank) with Cs/Sr loaded sample and OPC sample to investigate the leaching and dissolution behavior with consideration of co-existing ions in the leachate.

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