

[P05] Small-angle scattering measurements for cement paste samples using X-rays and neutrons in Hokkaido University

Thursday, 18 November 2021 16:00 (2h 30m)

Small-angle X-ray scattering (SAXS) measurements for cement paste samples have been conducted in order to obtain the time-evolution of nanostructure under the cement hydration process. In the measurements, it is important to avoid drying the cement paste because the SAXS profile of cement paste is affected by drying. By combining a sample cell, a laboratory-based SAXS instrument in Hokkaido University allows us to do an in-situ SAXS measurement of cement paste at the curing time from initial- to long-term. On the other hand, a small-angle neutron scattering (SANS) measurement have been prepared with a heavy-water cement paste sample at an accelerator-driven neutron source facility in Hokkaido University. As a complementary approach, we are planning to estimate the composition of nanostructure of cement paste by utilizing the difference between the electron and neutron scattering length densities. In this presentation, mainly, the measured SAXS profiles and the experimental procedures using X-rays and neutrons are reported.

Primary author: Dr HARA, Kaoru (Faculty of Engineering, Hokkaido University)

Co-authors: HARA, Kaoru Y.; MORINAGA, Yuka; YODA, Yuya; OHNUMA, Masato

Presenter: Dr HARA, Kaoru (Faculty of Engineering, Hokkaido University)

Session Classification: Poster ポスター