

Concentrations of natural radionuclides and particles with the Multiple-Unit Large-Volume in situ Filtration System

Tatsuo Aono[1]; Takahiro Nakanishi[1]; Tomofumi Sakuragi[1]; Masami Kawasaki[1]; Masatoshi Yamada[2]; Masashi Kusakabe[1]

[1] Nakaminato Laboratory for Marine Radioecology, NIRS; [2] NIRS

Some radionuclides have been used as a tool to study particle dynamics on time scales ranging from day to year in surface mixed layer. However, it is difficult to concentrate and fractionate the particulate matters with the filtration systems, as the activities of radionuclides are low in the ocean. So, a multiple unit large volume in situ filtration system using the 350 m long electromechanical cable and cable handling system are developed. Some ton-order volume of seawater could be size-fractionated and concentrated with this system in the northern Pacific during the KH04-3 cruise of the R.V. Hakuho and the MR04-7 cruise of the R.V. Mirai. In the present paper, we summarize the results for measured thorium isotopes and discuss the particulate export fluxes in the in surface layer.