Re-suspension processes of radioactive Cs emitted by the FNDPP accident in summer and autumn – possibility of biosphere-atmosphere circulation of radioactive Cs

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Re-suspension of radioactive cesium (Cs) from the soil and vegetation to the atmosphere may be one of significant path in the diffusion of radionuclides after the FNDPP accident. We are monitoring the radioactivity concentration of atmospheric Cs-134/137 at Tsushima, Fukushima. Atmospheric suspended particle are collected with high-volume air samplers mounted at these sites. The measured concentrations of atmospheric Cs-134/137 at Tsushima indicated their seasonal variation: maximum in summer and minimum in winter. SEM observation, X-ray analyses, chemical analysis and other experiments on atmospheric samples indicated that organic/biogenic particles main agent bringing Cs-134/137 to the atmosphere in summer and autumn. Our results strongly suggested that Cs-134/137 is circulating among vegetation, soil, and atmosphere.