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High time-resolution analysis of microparticles in the Holocene and last glacial periods of a deep ice core at Dome Fuji, Antarctica: preliminary results

T. Miyake (1), T. Yanagisawa (2), K. Sano (2), R. Uemura (1) and Y. Fujii (1)

(1) National Institute of Polar Research, Japan, (2) College of Humanities and Sciences, Nihon University, Japan

We conducted the high resolution-analysis of microparticles in an deep ice core at Dome Fuji, Antarctica to study for possible paleoclimate indications of seasonal and/or annual climate variations in the Holocene and last glacial period. We selected a 0.48 m long core section between 498.85 and 499.38 m depth in the last glacial period and a 0.32 m long core section between 129.91 and 130.23 m depth in the Holocene, and the high-resolution analysis of microparticles was conducted from 2 to 7 mm in thickness in the Holocene samples and from 1 to 5 mm in thickness in the last glacial. The average concentrations of microparticles of the last glacial samples are ca. 37 times greater than those in the Holocene samples with the diameters of microparticles from 0.52 to 5.04 micrometer. Our preliminary results indicate the possible signals of seasonal variations of microparticles in the Holocene from results of Fourier analyses.