High resolution analyses of the Dome Fuji deep ice-core using a Continuous Flow Analysis (CFA) System

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We have been developing a Continuous Flow Analysis (CFA) system at the National Institute of Polar Research, Japan for high resolution analyses of ice cores, especially the deep ice core drilled at Dome Fuji, Antarctica. The CFA system consists of a melting unit and a detection unit. The detection unit consists of two parts, one for melt water analyses and the other for gas (currently methane) analyses. The melt water is analyzed for stable isotopes of water, electric conductivity, solid particles, black carbon and elements (currently Na, K, Mg, Ca, Al and Fe). Part of the melt water is collected in sample vials with fraction collectors. Here we report the results of various tests to evaluate the CFA system. We also present the first results obtained from the Dome Fuji deep ice-core.

Keywords: CFA analyses, Deep ice core, Dome Fuji, Antarctica

