

## 最終退氷期の南極内陸における水溶性エアロゾルの化学組成

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### **Chemical compositions of soluble aerosols in the inland Antarctic ice cores over the last termination**

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The chemical composition of particles preserved in the polar ice sheets is important for the understanding of past atmospheric chemistry. Recently, several studies have been reported chemical compositions of soluble salt particles preserved in the ice cores from inland and peripheral regions in Antarctica (Dome Fuji and Talos Dome), and Greenland (NEEM), and clarified their differences. On the other hand, there is no study that compared salt compositions between different sites in inland Antarctica. We report here chemical compositions of soluble salt particles around the last termination in the Dome C ice core, and discuss differences between Dome C and Dome Fuji. Particles larger than 0.45  $\mu\text{m}$  are obtained from the ice core by an ice sublimation method, and their chemical compositions are analyzed by scanning electron microscope and energy dispersive X-ray spectroscopy. The major soluble salt particles are  $\text{CaSO}_4$ ,  $\text{Na}_2\text{SO}_4$  and  $\text{NaCl}$ , which is the same as in the Dome Fuji ice core. Time series changes in these salts compositions are similar to the Dome Fuji ice core as well. From 25 to 18 kyr BP, the  $\text{CaSO}_4$  and  $\text{NaCl}$  fractions are high and the  $\text{Na}_2\text{SO}_4$  fraction is low. Between 18 and 17 kyr BP, the  $\text{CaSO}_4$  and  $\text{NaCl}$  fractions decrease and the  $\text{Na}_2\text{SO}_4$  fraction increases. Between 16 and 6.8 kyr BP, the  $\text{CaSO}_4$  and  $\text{NaCl}$  fractions are low and  $\text{Na}_2\text{SO}_4$  fraction is high. However, sulfatization rate of  $\text{NaCl}$  at Dome C is higher than at Dome Fuji. This may be because more  $\text{SO}_4^{2-}$  was available for  $\text{NaCl}$  to form  $\text{Na}_2\text{SO}_4$  due to lower concentration of  $\text{Ca}^{2+}$  in the Dome C ice core compared to Dome Fuji.