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## CHEMISTRY OF SNOW, AEROSOLS AND ATMOSPHERIC ACID GAS AT DOME FUJI STATION, ANTARCTICA (ABSTRACT)

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A year-round sampling of surface snow, aerosols (using 0.2  $\mu\text{m}$  Nuclepore filter) and acid gases (using alkali impregnated filter) was carried out at Dome Fuji Station in the period from February to December of 1995 by the 36th JARE. Samples were transported under refrigeration.

The concentration levels of  $\text{exSO}_4^{2-}$ , MSA,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{NH}_4^+$ ,  $\text{Na}^+$  and  $\text{K}^+$  in snow at Dome Fuji Station are nearly comparable to those observed on the Mizuho Plateau, especially with those at elevation higher than *ca.* 3500 m. And further, the patterns of seasonal variation of  $\text{exSO}_4^{2-}$ , MSA and  $\text{NO}_3^-$  in aerosols taken at Dome Fuji Station, high in summer and low in winter, are similar to those at Syowa Station. These observations lead to an impression of the same source and transport mechanism of non-sea salt components in snow and aerosols on the Dome Fuji and in Mizuho Plateau.

However, strikingly, the concentrations of non-sea salt components in the aerosols taken at Dome Fuji Station were as low as several hundredths of those observed at Syowa Station or on the Mizuho Plateau. This may suggest a different manner of incorporating chemical components into snow and, therefore, into glacier ice. More observations are needed before reaching a firm conclusion.

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