

## Past anthropogenic aerosols preserved in ice core of south-east dome, Greenland

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We conducted ice core drilling on the southeastern Greenland Ice Sheet on May 2015 to reconstruct concentrations and compositions of anthropogenic aerosols after the industrial revolution. We obtained a 90m long ice core with an electrical mechanical drill developed by the Institute of Low Temperature Science, Hokkaido University. The ice cores were packed in plastic bags and stored in insulation boxes, and transported at frozen condition to the Institute.

The core has unique characteristics that; 1) The drilling position is N67°11', W36°22', and 3170 m asl, where is one of the highest domes on Greenlandic ice sheet; 2) very high accumulation region (ca. 1.0 m/y in water equivalent), and the depth at 90 m is corresponding to about AD 1950-1960; 3) close-off depth from firn to ice is about 86 m, which means we obtained ice not but firn including anthropogenic aerosols in spite of a Greenlandic dome more than 3000 m asl.; 4) weather is controlled by Icelandic Low with high winter accumulation, and the ice core preserved anthropogenic materials mainly from Europe.

For the unique characteristics 3), we can measure directly the compositions of past aerosols in ice by Raman spectroscopy, and also we can measure concentrations and compositions of many past soluble aerosols by using the sublimation method, which is developed by authors. We will present the concentrations and compositions of anthropogenic aerosols in the ice core.