

Lidar observation of Polar Stratospheric Clouds at Syowa Station (69S, 39E)

Takuya Kawahara[1]; Masaki Tsutsumi[2]

[1] Faculty of Eng., Shinshu Univ.; [2] NIPR

Stratospheric temperature in winter Antarctica falls below -78°C (195K) during polar night because of stable polar vortex and lack of heating by the sun. Polar stratospheric clouds (PSCs) are formed and play an important role of destructing ozone layer in Spring. The vertical structure of PSCs can be measured by lidar. Sodium lidar observation was conducted between 2000 and 2002 at Syowa Station. We discuss day-to-day variation of PSCs using the lidar data by comparing Sonda temperature. A very good agreement of height region of PSCs and temperature is found. The maximum ratio of Mie/Rayleigh scattering was about 5 in 28th week.