



Aerosol Properties in the European Arctic Region

C. Lund Myhre (1), K. Stebel (1), J. Schau (1), A. de Frutos Baraja (2) C. T. Olmeda (2), V. E. Cachorro Revilla (2), and G. Hansen (1)

Norwegian Institute for Air Research, Kjeller & Tromsø, Norway, (2) Grupo de Óptica Atmosférica (GOA-UVA), Dpto. de Física Teórica, Atómica y Óptica, Facultad de Ciencias, Universidad de Valladolid, 47071-Valladolid, España

clm[nilu.no / Phone: +4763898042

Local and regional anthropogenic sources are almost absent in Arctic region and Arctic haze commonly present in springtime is the result of long-range transport into the region from mid-latitude sources in Russia, Europe and North America.

Routine aerosol measurements of aerosol optical depth (AOD) in the Arctic region are performed at few key sites. In Northern Scandinavia only scarce aerosol measurements exist from previous campaigns. Svalbard, with the two sites of Ny-Ålesund and Longyearbyen, is an excellent aerosol monitoring and research facility. Further ALOMAR with its location at the northern Norwegian coast is a well-suited complement to the existing infrastructure at Svalbard. Depending on the wind direction, either oceanic air or continental air arrives at the ALOMAR site, hence typical maritime and continental aerosols are alternatively present in the site. The site is also expected to be located on either side of the polar front, depending on the season, and is thus suited for comparing mid-latitude and polar air masses.

This study focuses on optical properties of aerosols in the European Arctic region and observations and comparisons of the seasonal variation in optical depth at different sites are presented.