



Our work can be divided in field measurements and laboratory studies. The field observations are performed in close cooperation with the Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven/Potsdam. These observations include continues observations in the high Arctic at Spitsbergen (79°N, 12°E). Furthermore, the latitudinal variations of trace gases and aerosols are studied during ship cruises onboard the german research vessel Polarstern between 80°N and 70°S. The work programme can be divided into the following 4 subjects, which are partly discussed in the web page.

- Study of chemical and dynamical processes in the free troposphere. Study of the long range transport of anthropogenic airmasses. Impact of tropical biomass burning compared to the emissions from the northern hemisphere. Upper troposphere/lower stratosphere exchange processes
- Chemistry and dynamics in the arctic stratosphere, better understanding of the chemical and dynamical processes involved by combining the FTIR- and microwave observations to establish combined data sets for several trace gases as input data for the modelling.
- Long term trends in the atmosphere . Long term trends of ozone and ozone depleting compounds (e.g. chlorine species) in the stratosphere by a combined analysis of the FTIR- and microwave observations. Observations of the water vapor trend in the stratosphere and mesosphere.
- Development of new measurement and analysis techniques to measure atmospheric trace gases and aerosols.



[download automatic line finding program \(ALFIP\)](#)