



Ozone loss in the Arctic stratosphere over Kiruna, Sweden, during winter/spring 2005/06

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We will present the Arctic ozone loss of the recent winter as derived from measurements of KIMRA. The millimeter wave radiometer KIMRA is operated continuously at IRF Kiruna (67.8 N and 20.4 E). From the measurements we calculated ozone profiles between 15 and 60 km. We derived column densities for this altitude region including most of the atmospheric ozone. In order to estimate the Arctic winter ozone loss we took into account only those measurements that have been taken while Kiruna was located well inside the polar vortex as defined by the 'Equivalent Latitude' method. Although this method has problems during the phase of formation and break up of the vortex it has a more flexible definition of the vortex edge. This leads to a significantly higher number of data points for the ozone loss analysis. Ozone loss can be hidden in dynamic effects such as subsidence of air masses inside the vortex. In order to correct for this effect we use N₂O data from the Odin satellite. Given a stable polar vortex and more occasions of extensive PSC coverage as already has been observed in early January by the IRF lidar system we expect a substantial ozone loss for the winter 2005/06.