Fig. 6 Correlation between Total Nitrogen Oxides and Dinitrogen Monoxide at 15-30 km over Antarctica as Observed by ILAS-II

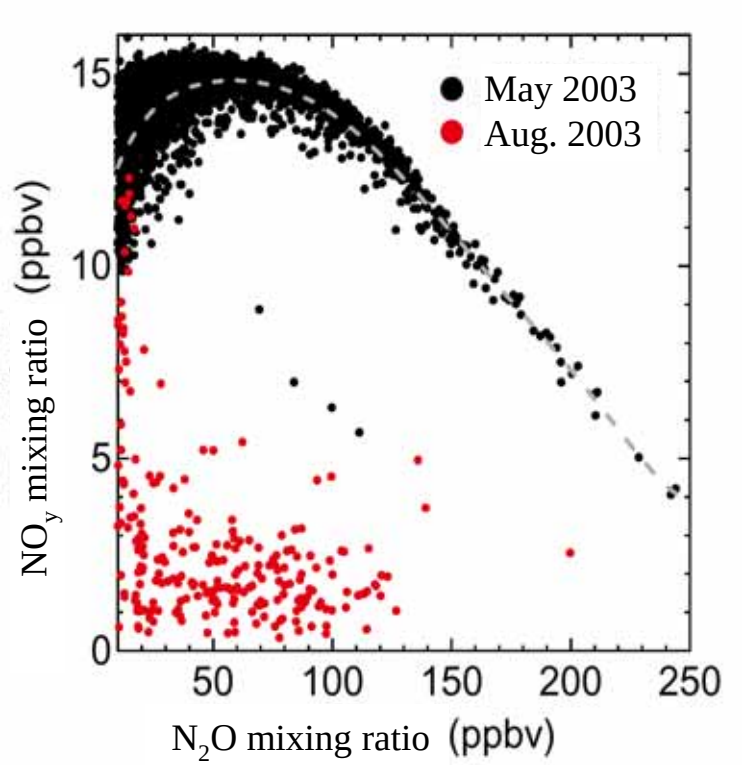

Fig.6 shows the correlation of the observed values of NO_y and dinitrogen monoxide (N_2O) measured at 15-30 km above the Earth's surface by ILAS-II in May (black) and August (red) of 2003. Both NO_y and N_2O are tracers, the concentrations of which remain unchanged in the process of air movement, and are known to have a strong correlation. When PSCs occurs, NO_y fluctuates substantially but N_2O remains unchanged. Based on this, changes in the concentrations of NO_y can be monitored.

Before the occurrence of PSCs (May 2003), NO_y and N_2O had a strong correlation. At the altitude of about 20 km (N_2O mixing ratio is equivalent to 50-100 ppbv), NO_y is known to reach the maximum value of about 15 ppbv. However, data from ILAS-II shows that over 90% of NO_y over Antarctica had been lost by August. This is believed to have been caused by low temperatures in winter 2003, as compared to past years. It is feared that the ozone hole over Antarctica will be larger in 2004 than in past years and will persist longer than past occurrences.