The CFC11 and CFC12 measurements by HIRDLS, unique among the Aura measurements, are compared with observations from ground-based NDACC Fourier transform spectrometers. Figures 1 and 2 show the HIRDLS observation of the global distribution of CFC11 and CFC12 at 200 mb. Overlap of the measurement ranges of the two techniques is not optimal. HIRDLS measures the vertical profile of the volume mixing ratio from 5.1 mb to 215.4 mb for CFC11 and from 3.2 mb to 316.2 mb for CFC12. Figure 3 shows a typical vertical profile of partial column of CFC11 and Figure 4 shows CFC12 from the surface to 30 km. As may be seen in Figures 3 and 4 HIRDLS observations cover less than a quarter of the total column of CFC11 or CFC12 (13 % for CFC11 and 23% for CFC12).

Coincident measurements of the partial column vertical profile from HIRDLS and the NDACC sites may be compared. However, ground-based, remote NDACC observations of the vertical profile are largely influenced by the adopted a priori profile. Limited information is available in the NDACC observation to constrain the vertical profile.

A better comparison of the two techniques may be obtained by comparing the partial column covered by the HIRDLS observation with the partial column derived from NDACC observations rather than comparing vertical profiles, that is comparing all the CFC12 between 9 and 30 km from both techniques.

Differences between the partial columns from the two techniques calculated as (HIRDLS - FTIR)/0.5*(HIRDLS + FTIR) * 100 are : for CFC11 mean difference of 1.20% with a standard deviation of 6.28%; for CFC12 a mean difference of -6.83% with a standard deviation of 3.66%. These differences are within the uncertainties of the two techniques.