1 RAL Retrievals

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1.1 Data

- Microwindow data supplied by J. Reburn, email 08 Jan 02.
- Averaging kernels: collected from ftp://santander.ag.rl.ac.uk/pub/amil2da 04 Apr 02
- Residuals supplied by J. Reburn, email 21 Feb 02.

1.2 Notes

- Joint O_3 and H_2O retrieval only.
- Microwindows do not use masks
- Averaging kernels are the 'pseudo-inverse' ("pinv") versions, calculated using the **L** matrix ('method 3').

1.3 REC Analysis

Table 1: REC analysis for RAL retrievals

error source	all points c	σ
`o3`	0.02	0.01
`h2o_09`	0.39	0.01
`h2o_06`	0.68	0.01
`nonlte`	0.63	0.02
`h2o_12`	− 0.52	0.04
`h2o_st`	− 0.31	0.04
`n2o5`	0.68	0.05
`no2`	0.05	0.07
`nh3`	− 0.17	0.08
`pre`	0.58	0.08
`hcn`	− 0.14	0.12
`clono2`	4.21	0.13
`hno3`	− 9.03	0.20
`ch4`	0.51	0.21

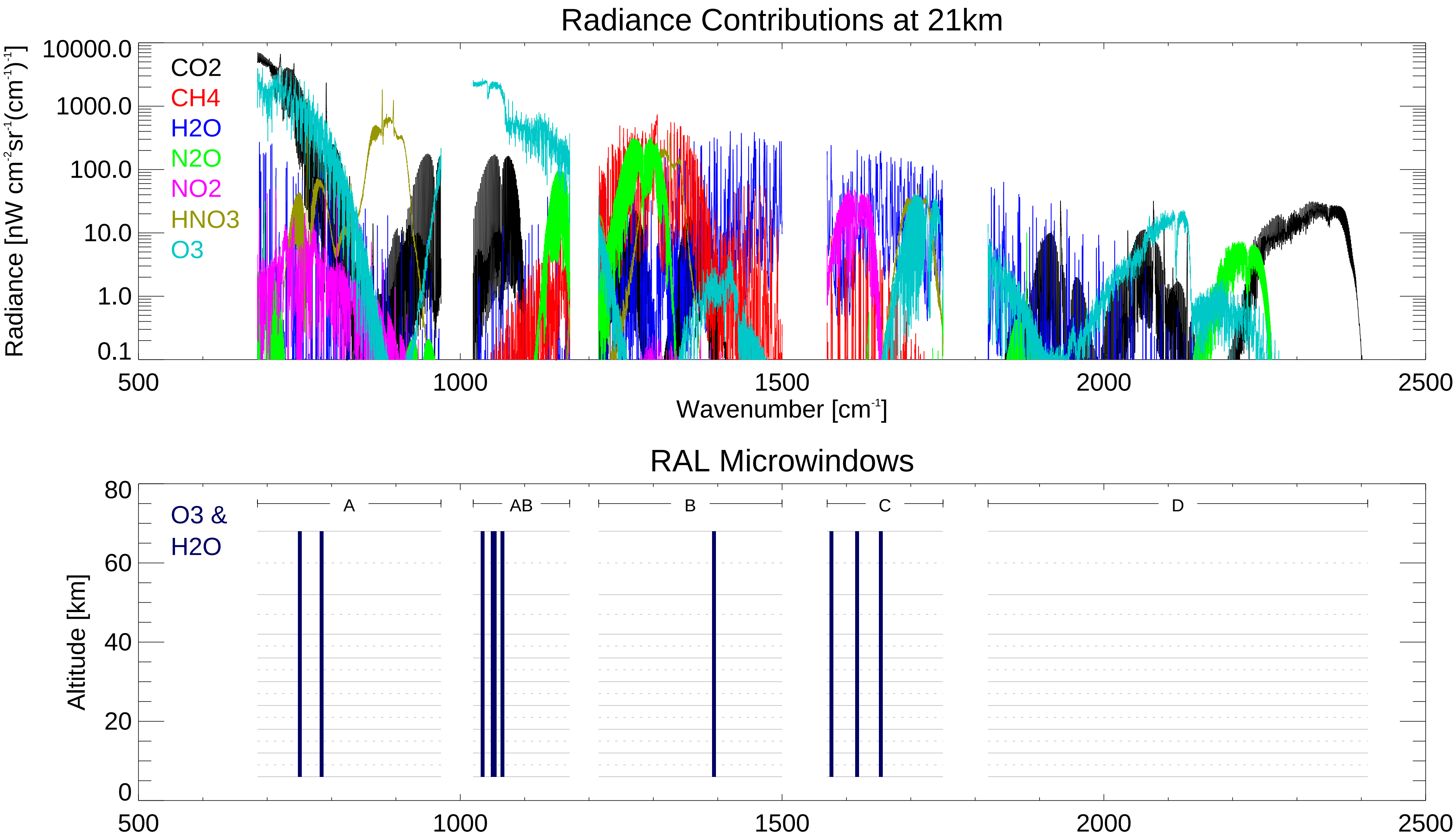

Figure 1: RAL microwindows

1.4 Ozone-Water Vapour

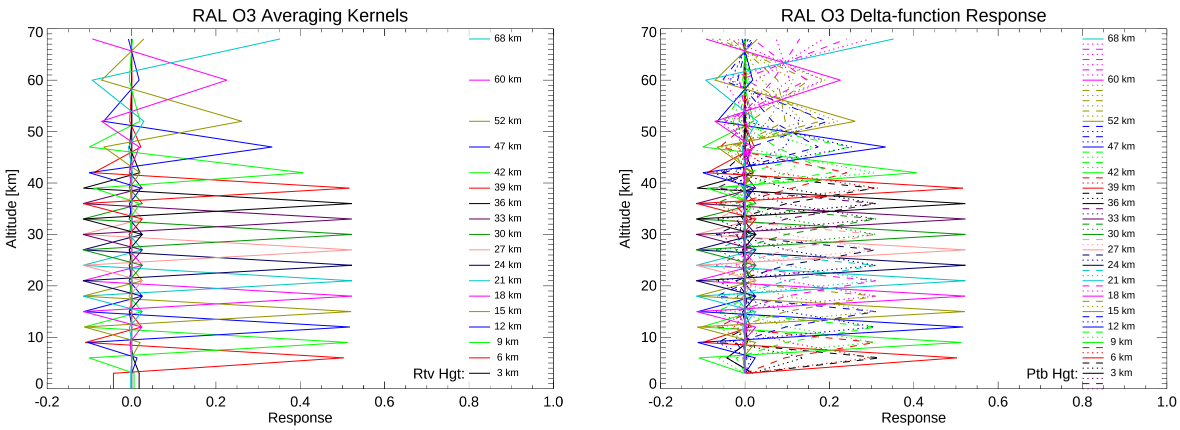

Figure 2: RAL ozone averaging kernel matrix

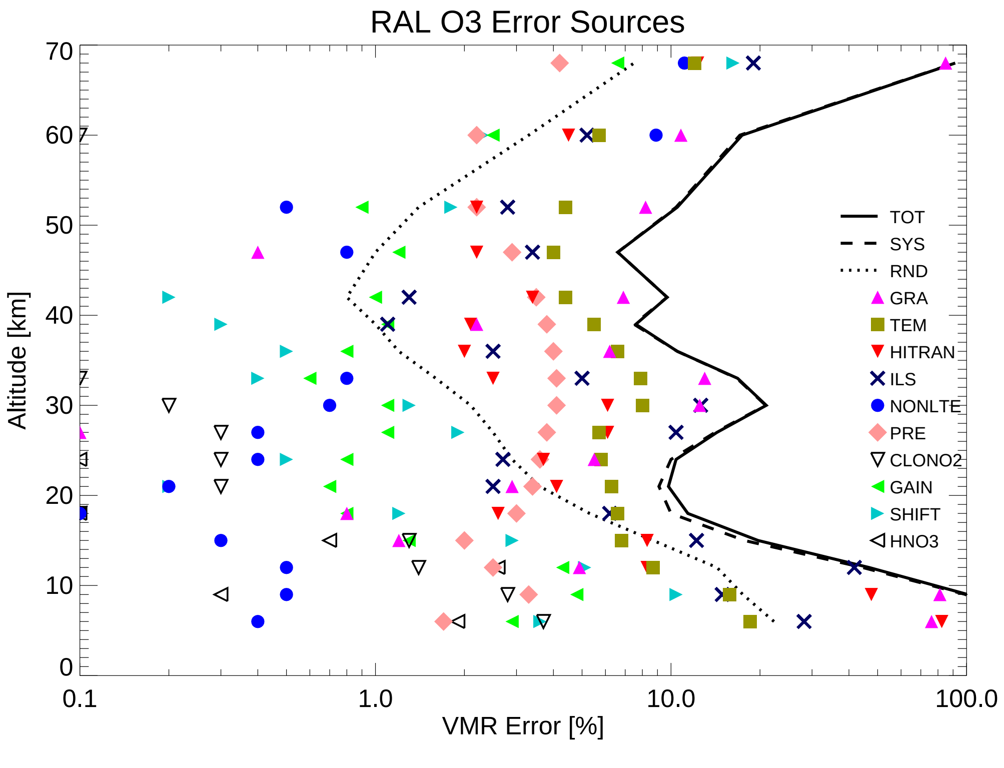

Figure 3: RAL ozone retrieval errors

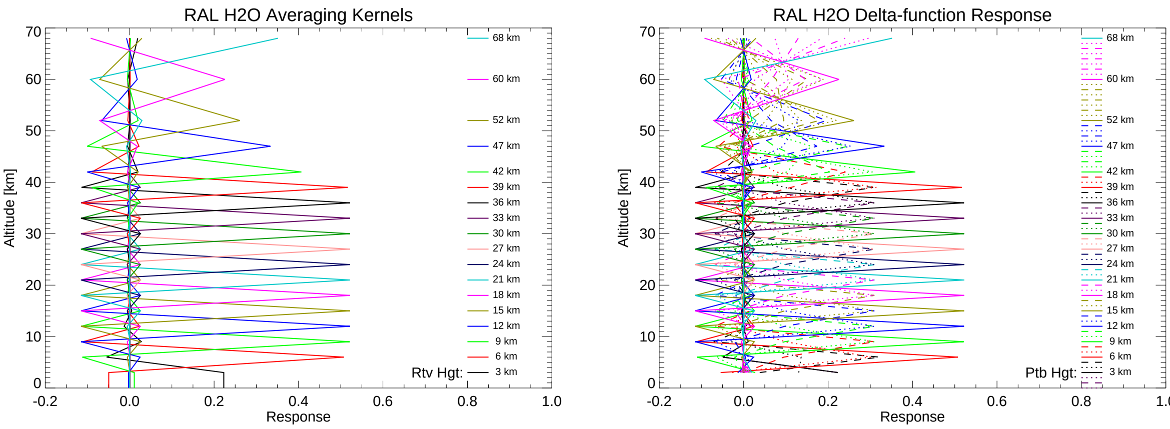

Figure 4: RAL water vapour averaging kernel matrix

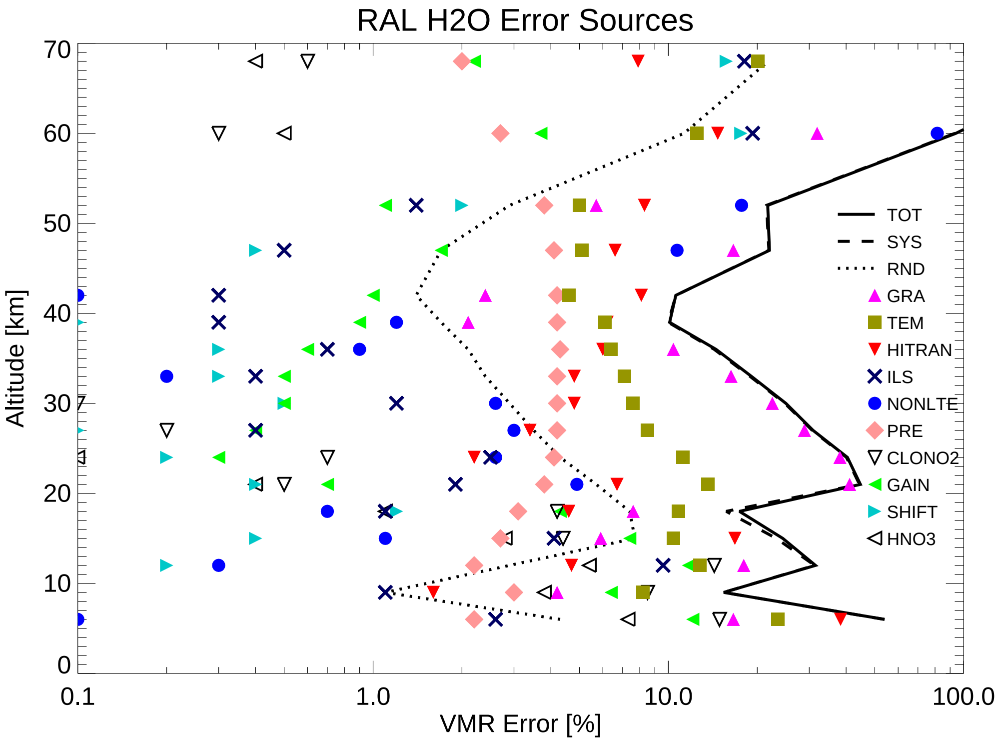

Figure 5: RAL water vapour retrieval errors