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Version 8 IMK–IAA MIPAS ozone profiles: nominal observation mode

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This document serves as reference for the definitions of the representative atmospheres used for the calculation of ozone error budgets, as listed in Tab. S1, and as collection of the respective error budgets for FR data (2002-2004), which are listed in tables S2–S35 and depicted in figures S1–S34, and the respective error budgets for RR data (2005-2012), which are listed in tables S36–S69 and depicted in figures S35–S68.

The errors are presented as relative errors in percent, even if they are of additive nature, i.e., do not scale with the retrieved volume mixing ratio. They were calculated with respect to the average ozone profile that was calculated from the single geolocations which contribute to the respective representative atmospheres.

Table S1. Labels and definitions of the representative atmospheric conditions which were used to calculate the error budget for FR and RR data.

representative atmosphere label	month(s) used	latitude range	solar zenith angle range
Northern polar winter day	Jan, Feb	65°N – 90°N	< 90°
Northern polar winter night	Jan, Feb	65°N – 90°N	> 95°
Northern polar spring day	Apr	65°N – 90°N	< 90°
Northern polar spring night	Apr	65°N – 90°N	> 95°
Northern polar summer day	Jul, Aug	65°N – 90°N	< 90°
Northern polar summer night	Jul, Aug	65°N – 90°N	> 95°
Northern polar autumn day	Oct	65°N – 90°N	< 90°
Northern polar autumn night	Oct	65°N – 90°N	> 95°
Northern midlatitude winter day	Jan, Feb	40°N – 60°N	< 90°
Northern midlatitude winter night	Jan, Feb	40°N – 60°N	> 95°
Northern midlatitude spring day	Apr	40°N – 60°N	< 90°
Northern midlatitude spring night	Apr	40°N – 60°N	> 95°
Northern midlatitude summer day	Jul, Aug	40°N – 60°N	< 90°
Northern midlatitude summer night	Jul, Aug	40°N – 60°N	> 95°
Northern midlatitude autumn day	Oct	40°N – 60°N	< 90°
Northern midlatitude autumn night	Oct	40°N – 60°N	> 95°
Tropics day	Apr	20°S – 20°N	< 90°
Tropics night	Apr	20°S – 20°N	> 95°
Southern midlatitude winter day	Jul, Aug	40°S – 60°S	< 90°
Southern midlatitude winter night	Jul, Aug	40°S – 60°S	> 95°
Southern midlatitude spring day	Oct	40°S – 60°S	< 90°
Southern midlatitude spring night	Oct	40°S – 60°S	> 95°
Southern midlatitude summer day	Jan, Feb	40°S – 60°S	< 90°
Southern midlatitude summer night	Jan, Feb	40°S – 60°S	> 95°
Southern midlatitude autumn day	Apr	40°S – 60°S	< 90°
Southern midlatitude autumn night	Apr	40°S – 60°S	> 95°
Southern polar winter day	Jul, Aug	65°S – 90°S	< 90°
Southern polar winter night	Jul, Aug	65°S – 90°S	> 95°
Southern polar spring day	Oct	65°S – 90°S	< 90°
Southern polar spring night	Oct	65°S – 90°S	> 95°
Southern polar summer day	Jan, Feb	65°S – 90°S	< 90°
Southern polar summer night	Jan, Feb	65°S – 90°S	> 95°
Southern polar autumn day	Apr	65°S – 90°S	< 90°
Southern polar autumn night	Apr	65°S – 90°S	> 95°

Table S2. Ozone error budget for Northern polar winter day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.07	15.58	57.05	4.85	26.34	39.83	>100	46.11	57.04	>100	22.97	>100
9	0.19	4.66	18.33	3.51	8.56	11.86	40.16	15.97	21.50	51.48	16.25	53.98
12	0.74	0.59	7.34	0.55	2.78	3.17	15.36	4.88	4.80	15.22	11.11	18.84
15	1.64	0.19	4.14	0.36	1.08	2.11	5.84	2.09	2.21	6.55	4.83	8.14
18	2.66	0.11	2.49	0.28	0.85	1.01	5.72	1.33	1.69	5.16	4.33	6.74
21	4.23	0.09	1.60	0.17	0.62	1.09	5.51	0.89	1.28	3.67	4.85	6.08
24	5.16	0.05	1.22	0.16	0.42	1.27	6.58	0.88	1.08	2.57	6.48	6.97
27	6.08	0.08	1.04	0.14	0.37	1.45	7.12	0.90	1.02	2.38	7.09	7.48
30	6.46	0.05	2.55	0.15	0.38	1.37	7.57	1.13	1.08	2.45	7.89	8.26
33	6.38	0.05	2.79	0.19	0.28	1.24	8.13	1.17	0.98	2.17	8.55	8.82
36	6.45	0.05	3.01	0.35	0.29	1.16	7.52	1.10	1.07	2.14	8.05	8.33
39	6.03	0.04	3.08	0.42	0.33	1.19	7.20	1.10	1.24	2.27	7.79	8.11
42	5.29	0.05	3.41	0.16	0.33	0.73	7.09	0.80	1.27	2.18	7.75	8.05
45	4.41	0.05	2.59	0.21	0.65	1.06	6.13	0.92	1.47	2.92	6.35	6.99
48	3.51	0.07	2.49	0.37	0.55	0.84	6.69	0.92	1.99	2.95	6.95	7.55
52	2.26	0.05	2.75	0.58	0.84	2.59	7.07	1.44	2.11	3.89	7.53	8.48
56	1.51	0.22	6.70	1.59	2.61	6.13	10.96	3.26	6.24	14.63	6.89	16.17
60	0.94	0.22	2.78	1.20	2.91	7.46	8.21	4.56	7.45	12.29	8.11	14.73
64	0.52	0.62	6.74	5.27	11.50	29.66	19.72	13.44	21.09	43.44	14.59	45.83
68	0.28	0.40	5.26	7.63	11.78	27.91	17.54	13.40	25.57	45.30	9.59	46.31

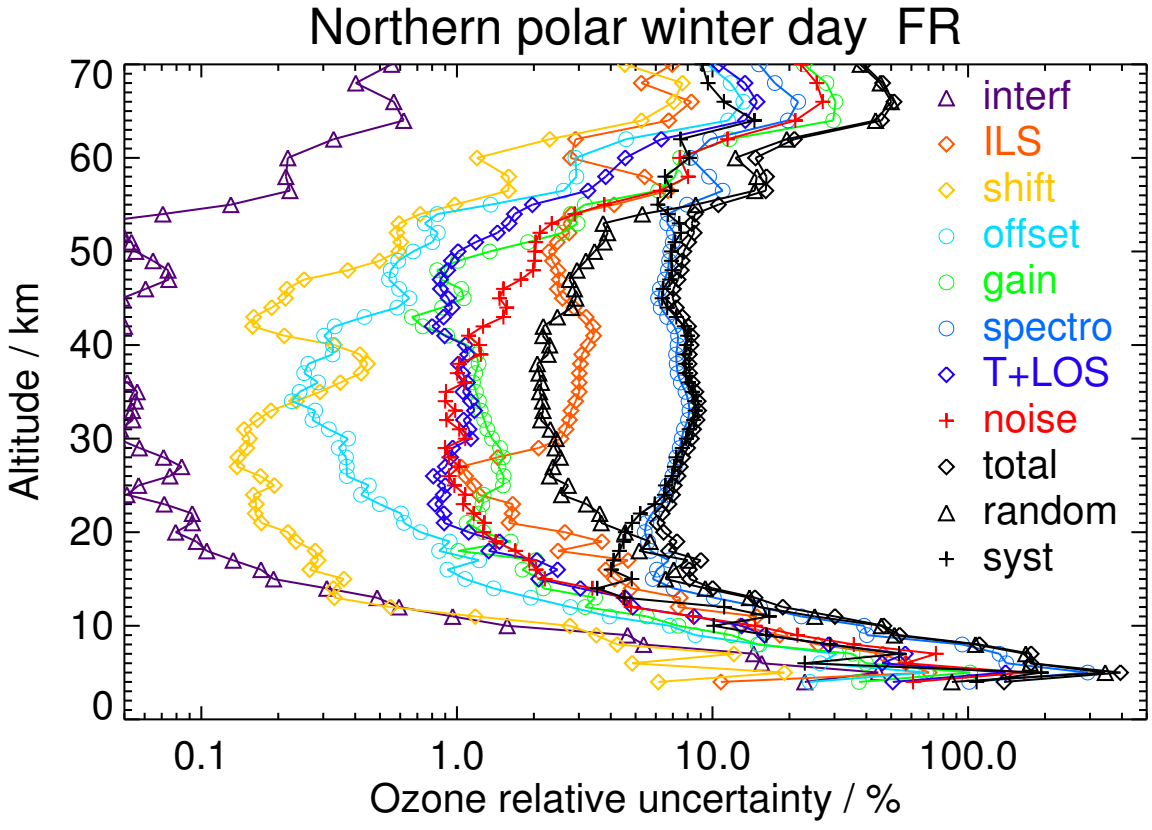

Figure S1. V8H_O3_61 Northern polar winter day

Table S3. Ozone error budget for Northern polar winter night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.05	18.49	91.62	8.17	37.99	54.71	>100	67.76	81.91	>100	80.88	>100
9	0.24	1.78	26.40	1.29	7.79	10.49	39.93	15.50	14.57	42.35	33.55	54.03
12	0.75	0.59	10.71	0.56	2.32	3.69	15.38	5.10	4.60	14.37	14.55	20.44
15	1.80	0.20	4.70	0.40	0.99	2.20	6.20	1.97	2.16	6.75	5.44	8.66
18	2.76	0.11	2.94	0.28	0.79	1.11	6.82	1.37	1.74	5.23	5.89	7.87
21	3.71	0.10	1.99	0.22	0.64	1.14	6.46	1.05	1.46	4.11	5.81	7.12
24	4.77	0.06	1.29	0.16	0.46	1.28	6.44	0.90	1.13	3.14	6.10	6.86
27	5.53	0.10	1.27	0.19	0.38	1.56	7.28	0.89	1.05	2.70	7.19	7.69
30	5.74	0.05	2.56	0.15	0.38	1.47	6.97	1.03	1.06	2.32	7.37	7.72
33	5.88	0.07	2.87	0.14	0.26	1.15	7.55	1.06	0.95	2.10	8.02	8.29
36	5.62	0.07	3.37	0.31	0.27	1.08	7.66	1.05	1.06	2.45	8.23	8.58
39	5.08	0.05	2.99	0.44	0.30	1.12	6.83	1.00	1.24	2.70	7.24	7.72
42	4.57	0.07	3.41	0.20	0.34	0.71	6.75	0.72	1.15	2.44	7.33	7.73
45	3.98	0.05	2.37	0.25	0.47	0.87	5.52	0.81	1.44	2.75	5.68	6.31
48	3.36	0.09	2.43	0.27	0.51	0.65	5.97	0.77	1.79	2.58	6.29	6.79
52	2.38	0.05	2.64	0.61	1.04	2.36	6.86	1.32	2.14	3.91	7.22	8.21
56	1.79	0.18	5.26	1.77	2.87	5.18	11.33	2.67	5.28	12.51	8.53	15.14
60	1.48	0.24	2.55	0.81	3.20	5.20	5.09	4.56	6.29	9.74	6.00	11.44
64	1.54	0.39	4.38	2.08	5.37	9.84	11.44	6.46	8.42	15.55	12.29	19.82
68	2.06	0.14	2.32	1.58	3.62	5.43	7.18	4.85	7.02	12.01	5.54	13.22

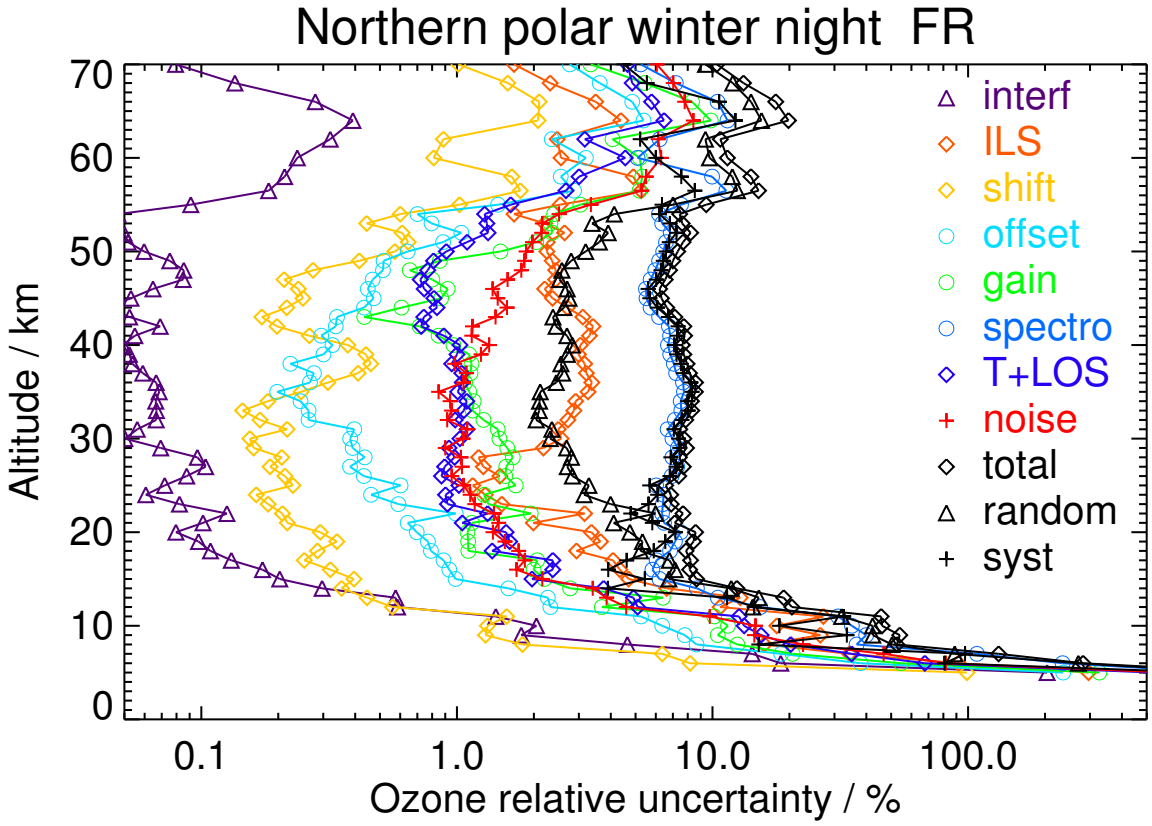

Figure S2. V8H_O3_61 Northern polar winter night

Table S4. Ozone error budget for Northern polar spring day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.10	36.52	44.23	18.08	30.31	21.81	>100	63.82	84.48	>100	>100	>100
9	0.36	4.30	9.41	2.69	6.39	5.21	35.73	12.95	14.65	32.76	27.71	42.91
12	0.97	0.89	6.54	0.63	1.87	3.18	10.09	4.72	4.48	13.62	4.00	14.20
15	1.61	0.26	4.51	0.27	1.14	1.72	6.73	2.81	2.51	8.40	3.69	9.18
18	2.80	0.11	3.53	0.27	0.79	1.77	4.91	1.65	1.47	5.41	4.01	6.73
21	3.87	0.09	2.50	0.19	0.55	1.02	6.08	0.99	1.20	3.79	5.72	6.86
24	4.89	0.06	1.48	0.17	0.51	1.49	5.57	0.80	1.04	2.83	5.43	6.12
27	5.87	0.07	1.19	0.21	0.32	1.48	6.44	0.77	0.92	2.02	6.52	6.83
30	6.74	0.05	2.17	0.25	0.34	1.52	6.56	0.88	0.90	2.21	6.85	7.20
33	6.99	0.04	2.92	0.18	0.22	1.26	7.32	1.01	0.85	1.87	7.88	8.10
36	6.54	0.05	3.18	0.24	0.18	1.30	7.36	1.12	0.88	1.81	8.05	8.25
39	5.80	0.03	3.10	0.31	0.30	1.38	6.43	1.11	1.09	1.87	7.21	7.45
42	5.13	0.06	3.45	0.27	0.30	0.80	5.91	0.84	1.15	1.66	6.85	7.05
45	4.20	0.03	2.81	0.56	0.82	1.50	4.50	0.82	1.08	1.99	5.41	5.77
48	3.30	0.05	2.44	0.44	0.37	0.83	5.44	0.71	1.41	1.92	5.95	6.25
52	2.10	0.08	1.96	0.63	0.52	2.38	5.90	0.92	1.51	2.41	6.51	6.94
56	1.34	0.15	2.97	1.61	2.96	5.28	4.22	2.22	5.44	8.62	5.10	10.02
60	0.84	0.12	1.97	3.89	2.13	9.46	7.73	2.91	7.01	11.08	10.37	15.18
64	0.70	0.55	2.63	11.77	9.20	33.01	13.65	7.07	20.14	27.79	34.50	44.30
68	0.39	0.38	2.95	8.61	8.78	29.90	17.27	9.83	18.23	26.31	33.00	42.20

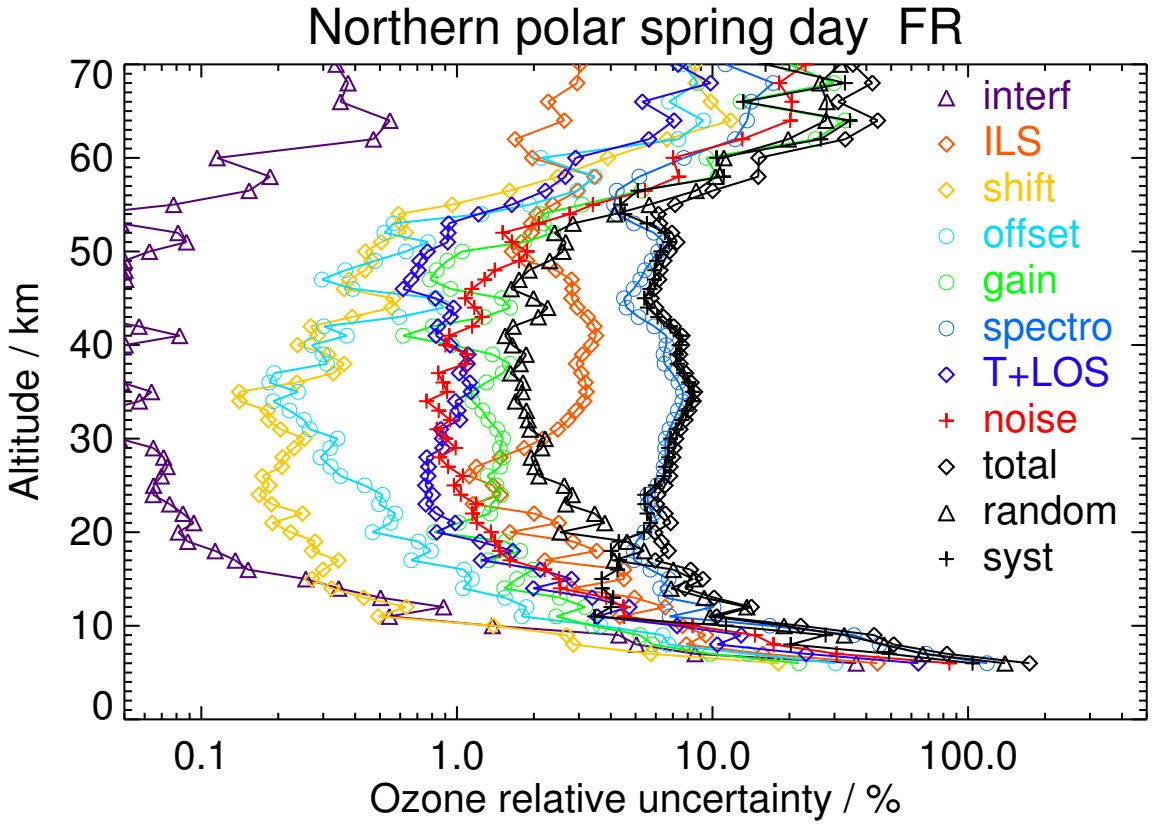

Figure S3. V8H_O3_61 Northern polar spring day

Table S5. Ozone error budget for Northern polar spring night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.31	12.66	14.64	5.68	9.24	3.48	25.63	26.91	30.59	44.03	29.71	53.12
9	0.29	4.52	12.07	2.93	7.57	5.85	51.71	15.23	16.93	46.05	36.59	58.82
12	0.97	0.54	4.58	0.57	1.68	2.33	9.27	4.30	4.09	11.36	4.67	12.29
15	1.54	0.29	4.48	0.34	1.06	2.05	6.17	2.71	2.42	7.99	3.62	8.77
18	2.68	0.10	3.30	0.27	0.79	1.43	5.54	1.56	1.47	5.76	3.97	6.99
21	3.89	0.10	1.41	0.18	0.47	0.95	5.05	0.82	1.17	2.82	4.77	5.54
24	4.98	0.06	0.95	0.17	0.45	1.32	5.54	0.79	0.98	2.32	5.46	5.93
27	5.81	0.08	1.22	0.19	0.34	1.47	6.69	0.86	0.92	2.25	6.72	7.08
30	6.18	0.05	2.24	0.32	0.38	1.50	6.55	0.99	0.98	2.37	6.84	7.24
33	6.51	0.04	2.79	0.24	0.26	1.27	7.21	1.04	0.88	2.04	7.69	7.96
36	6.52	0.05	3.11	0.30	0.24	1.28	6.92	1.05	0.91	2.03	7.56	7.82
39	6.28	0.03	3.05	0.32	0.30	1.37	6.24	1.02	1.05	1.92	6.99	7.25
42	5.46	0.07	3.56	0.27	0.27	0.69	6.37	0.82	1.07	1.66	7.28	7.46
45	4.13	0.04	3.27	0.55	0.65	1.34	4.69	0.79	1.07	1.99	5.74	6.08
48	3.13	0.06	2.54	0.49	0.37	0.86	5.41	0.74	1.44	2.24	5.87	6.28
52	2.24	0.06	1.71	0.63	0.47	2.60	5.56	0.88	1.43	2.33	6.21	6.64
56	1.64	0.09	3.11	1.36	2.34	4.58	4.56	2.10	4.35	7.84	4.54	9.06
60	1.44	0.05	2.00	2.05	1.05	5.74	6.40	1.97	3.71	5.75	8.24	10.05
64	1.17	0.28	3.18	6.47	4.31	15.26	7.71	4.48	10.99	16.57	15.15	22.45
68	1.47	0.10	3.72	1.50	3.61	9.78	5.22	5.54	5.33	9.46	11.03	14.53

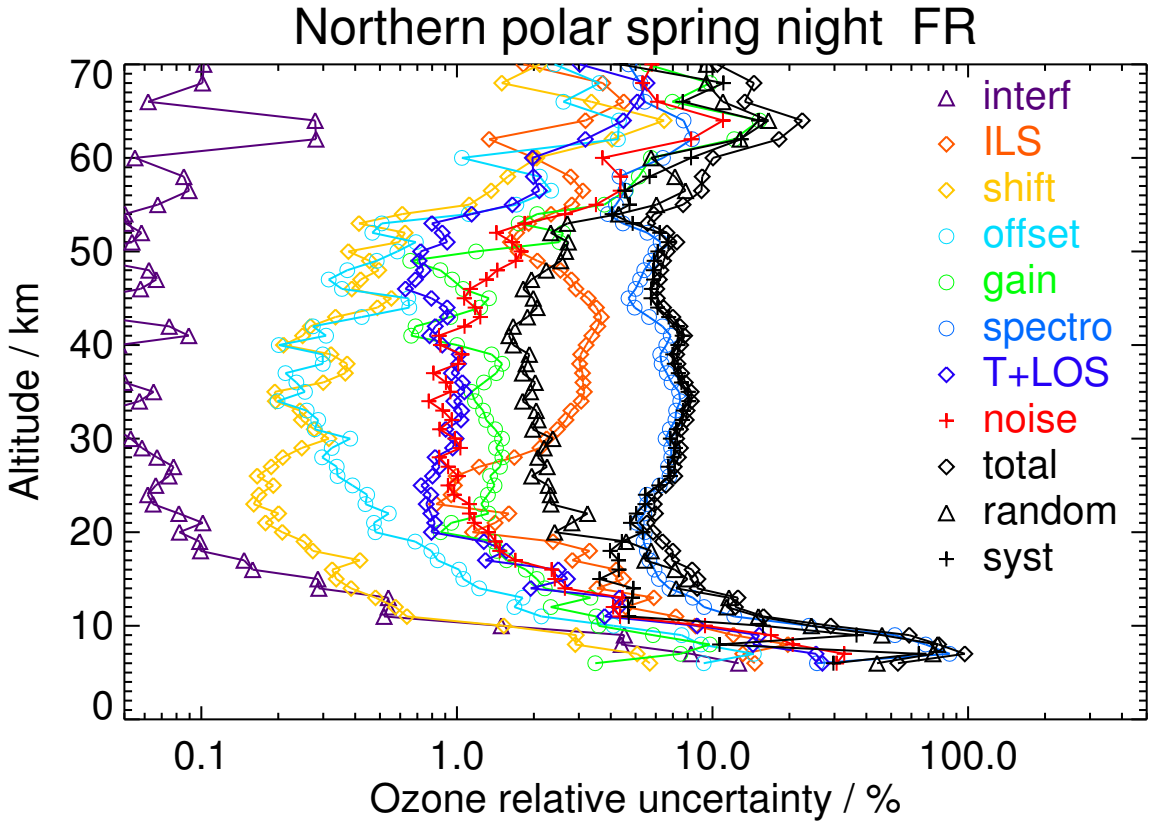

Figure S4. V8H_O3_61 Northern polar spring night

Table S6. Ozone error budget for Northern polar summer day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.72	1.85	7.98	1.73	6.12	0.47	29.91	8.14	13.32	16.96	30.96	35.30
9	0.26	5.25	12.43	3.05	6.55	5.16	38.99	13.18	17.42	45.31	14.34	47.52
12	0.44	1.21	11.37	1.36	3.47	4.78	16.48	7.54	8.60	21.61	10.14	23.87
15	0.80	0.49	3.72	0.52	1.45	2.14	8.15	2.87	4.35	9.79	4.32	10.70
18	1.72	0.17	3.06	0.45	0.94	1.42	5.41	1.44	2.18	5.15	4.69	6.97
21	2.84	0.11	1.49	0.24	0.50	0.96	5.24	0.75	1.51	2.69	5.15	5.81
24	3.20	0.06	1.37	0.14	0.46	1.48	5.91	0.77	1.38	2.40	6.00	6.47
27	3.82	0.10	1.03	0.16	0.39	1.47	6.27	0.75	1.33	2.47	6.25	6.72
30	4.43	0.04	2.44	0.38	0.39	1.52	5.86	0.92	1.28	2.25	6.35	6.74
33	5.11	0.04	2.47	0.31	0.29	1.32	6.31	0.93	1.03	2.01	6.76	7.05
36	5.59	0.08	2.85	0.21	0.23	1.26	6.32	0.96	1.03	1.84	6.95	7.19
39	5.61	0.05	2.65	0.34	0.35	1.82	5.44	0.98	1.05	1.71	6.27	6.50
42	5.01	0.12	3.32	0.40	0.36	0.60	6.24	0.76	0.86	1.40	7.06	7.20
45	3.90	0.07	3.28	0.64	0.89	1.45	4.43	1.00	1.28	2.40	5.53	6.03
48	2.96	0.07	2.67	0.40	0.34	0.67	4.82	0.72	1.31	1.72	5.51	5.77
52	2.03	0.11	1.73	0.84	0.58	2.64	5.97	0.90	1.90	2.84	6.56	7.15
56	1.43	0.20	3.03	2.77	2.05	5.89	6.19	2.40	5.54	8.62	7.51	11.43
60	1.01	0.21	2.54	4.68	2.66	14.90	6.51	2.88	7.33	10.34	15.97	19.02
64	0.65	0.97	3.47	15.91	10.86	44.38	15.62	9.50	22.21	33.28	45.53	56.40
68	0.46	0.35	3.02	10.74	6.86	16.39	16.45	8.05	22.03	29.11	20.33	35.50

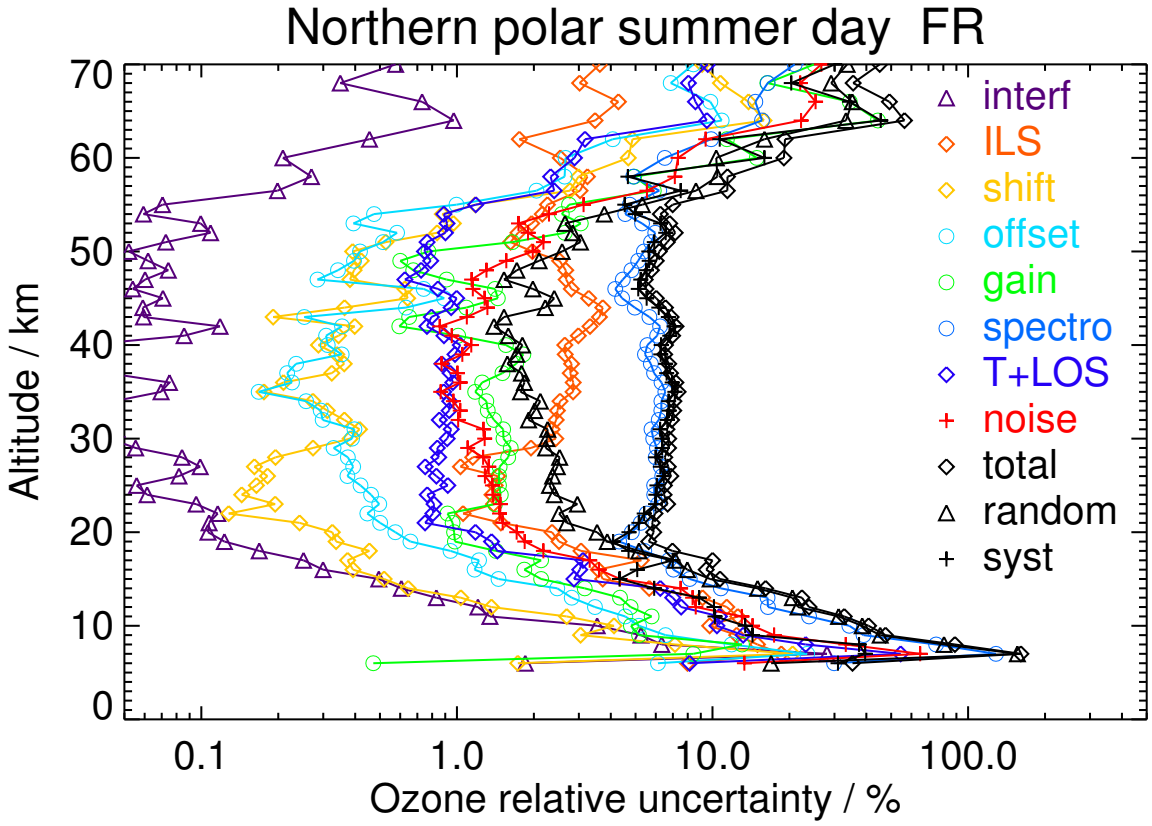

Figure S5. V8H_O3_61 Northern polar summer day

Table S7. Ozone error budget for Northern polar summer night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.22	2.53	18.58	3.19	8.72	7.29	52.23	17.73	20.94	52.12	35.43	63.02
12	0.40	1.05	16.67	1.36	4.80	7.85	21.53	9.81	10.05	23.83	21.41	32.04
15	0.74	0.37	5.59	0.62	2.20	2.75	10.25	3.76	4.83	10.47	8.78	13.66
18	1.61	0.13	3.82	0.49	1.21	1.98	6.53	1.70	2.37	5.40	6.50	8.45
21	2.67	0.10	1.36	0.24	0.51	0.61	5.39	0.73	1.63	2.60	5.30	5.90
24	3.39	0.06	0.94	0.21	0.49	1.38	5.21	0.67	1.41	2.34	5.21	5.71
27	4.52	0.09	0.86	0.14	0.34	1.33	6.21	0.73	1.23	2.37	6.14	6.58
30	5.48	0.04	2.23	0.36	0.36	1.52	5.95	0.94	1.15	2.02	6.41	6.72
33	6.28	0.04	2.50	0.28	0.25	1.28	6.55	0.97	0.93	1.60	7.09	7.26
36	6.66	0.06	2.98	0.21	0.19	1.22	6.70	1.02	0.93	1.50	7.42	7.57
39	6.30	0.03	2.79	0.31	0.26	1.73	5.99	1.04	0.98	1.57	6.81	6.99
42	5.22	0.10	3.32	0.37	0.37	0.47	6.73	0.84	0.85	1.42	7.50	7.63
45	3.82	0.04	3.47	0.54	0.81	1.58	4.51	1.09	1.33	2.12	5.85	6.23
48	3.05	0.06	2.56	0.35	0.30	0.92	4.47	0.65	1.36	1.60	5.22	5.46
52	2.33	0.06	1.62	0.69	0.45	2.50	5.79	0.85	1.72	2.38	6.41	6.84
56	1.64	0.07	1.55	1.76	1.48	4.72	5.07	2.00	4.83	6.41	6.47	9.11
60	1.59	0.11	1.26	2.54	1.99	10.12	5.36	2.70	4.22	6.53	11.20	12.97
64	0.84	0.58	4.71	10.10	9.58	35.91	12.41	10.50	15.74	25.81	36.76	44.92
68	1.24	0.15	3.68	5.99	4.45	9.22	10.82	8.22	9.00	15.58	13.31	20.49

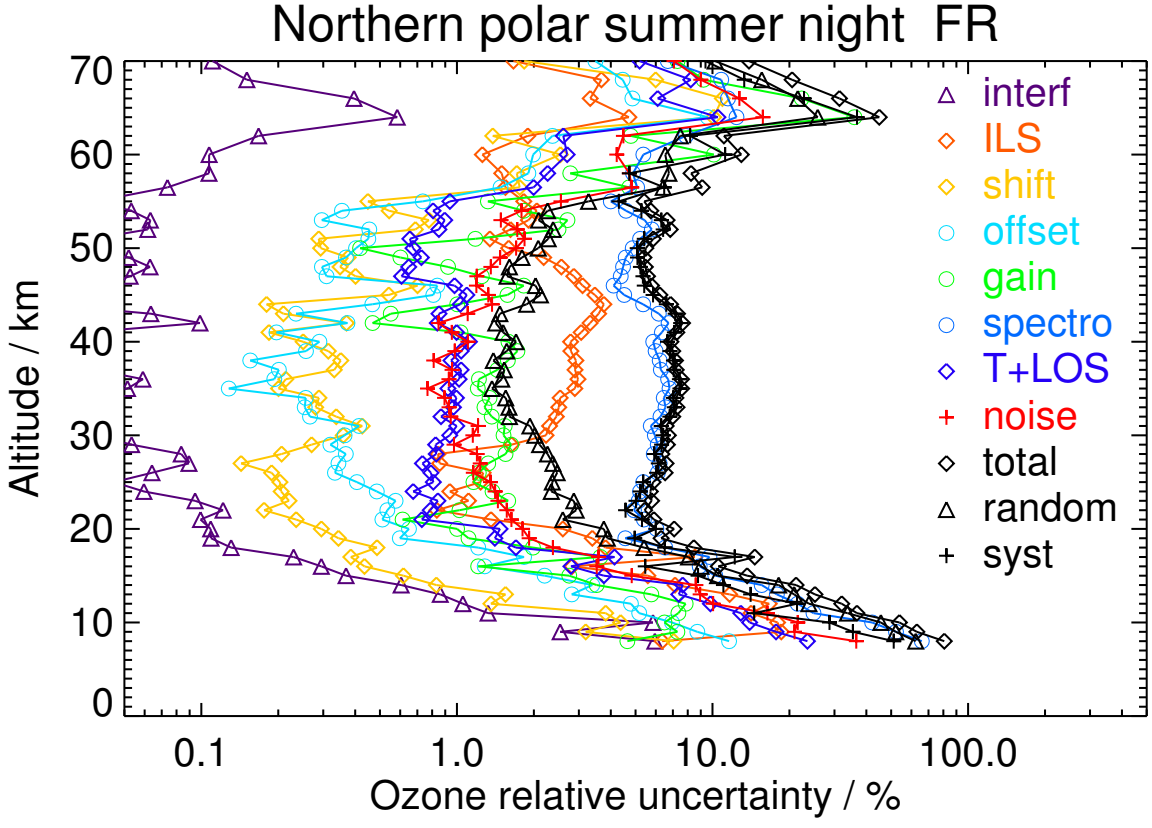

Figure S6. V8H_O3_61 Northern polar summer night

Table S8. Ozone error budget for Northern polar autumn day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.05	44.25	60.19	20.85	59.71	61.34	>100	>100	>100	>100	>100	>100
9	0.25	3.48	16.51	2.03	9.91	10.09	43.73	17.84	21.71	54.54	14.68	56.49
12	0.43	1.49	23.77	1.57	6.58	8.99	27.01	12.84	11.96	34.79	22.83	41.61
15	1.01	0.38	7.73	0.33	2.12	3.26	8.58	4.83	4.91	13.33	4.28	14.00
18	1.94	0.14	6.15	0.17	1.46	2.52	6.75	2.81	2.34	8.20	6.16	10.26
21	2.98	0.07	3.79	0.18	0.76	1.01	6.51	1.39	1.46	4.73	6.33	7.90
24	4.13	0.06	2.21	0.22	0.59	1.19	6.48	0.94	1.15	3.70	6.10	7.14
27	4.67	0.05	2.12	0.26	0.41	1.47	8.37	1.03	1.07	3.02	8.36	8.89
30	4.76	0.04	2.35	0.13	0.41	1.59	8.36	1.25	1.15	3.41	8.33	9.00
33	4.98	0.03	2.99	0.24	0.33	1.30	8.37	1.23	1.20	3.18	8.58	9.15
36	5.30	0.03	3.24	0.39	0.26	1.24	8.08	1.12	1.16	3.15	8.38	8.95
39	5.37	0.02	3.31	0.59	0.34	1.23	7.23	1.07	1.27	3.26	7.58	8.25
42	4.90	0.02	3.44	0.28	0.31	0.88	6.98	0.96	1.33	3.06	7.40	8.01
45	4.03	0.03	3.18	0.12	0.54	0.94	6.08	1.05	1.85	2.84	6.69	7.27
48	3.11	0.05	2.53	0.25	0.42	0.77	6.32	0.89	1.75	2.53	6.68	7.15
52	1.92	0.07	2.49	1.02	0.94	1.69	7.42	1.26	2.83	4.10	7.67	8.70
56	1.02	0.09	2.61	1.58	2.76	6.86	6.31	3.23	6.37	11.17	5.50	12.45
60	0.63	0.22	3.94	2.25	4.95	11.47	6.64	4.76	14.75	19.54	8.90	21.47
64	0.43	0.37	3.26	4.37	9.98	25.09	13.94	9.32	21.96	33.58	19.87	39.02
68	0.26	0.58	2.85	9.05	14.03	30.53	14.94	12.02	34.64	50.57	15.16	52.80

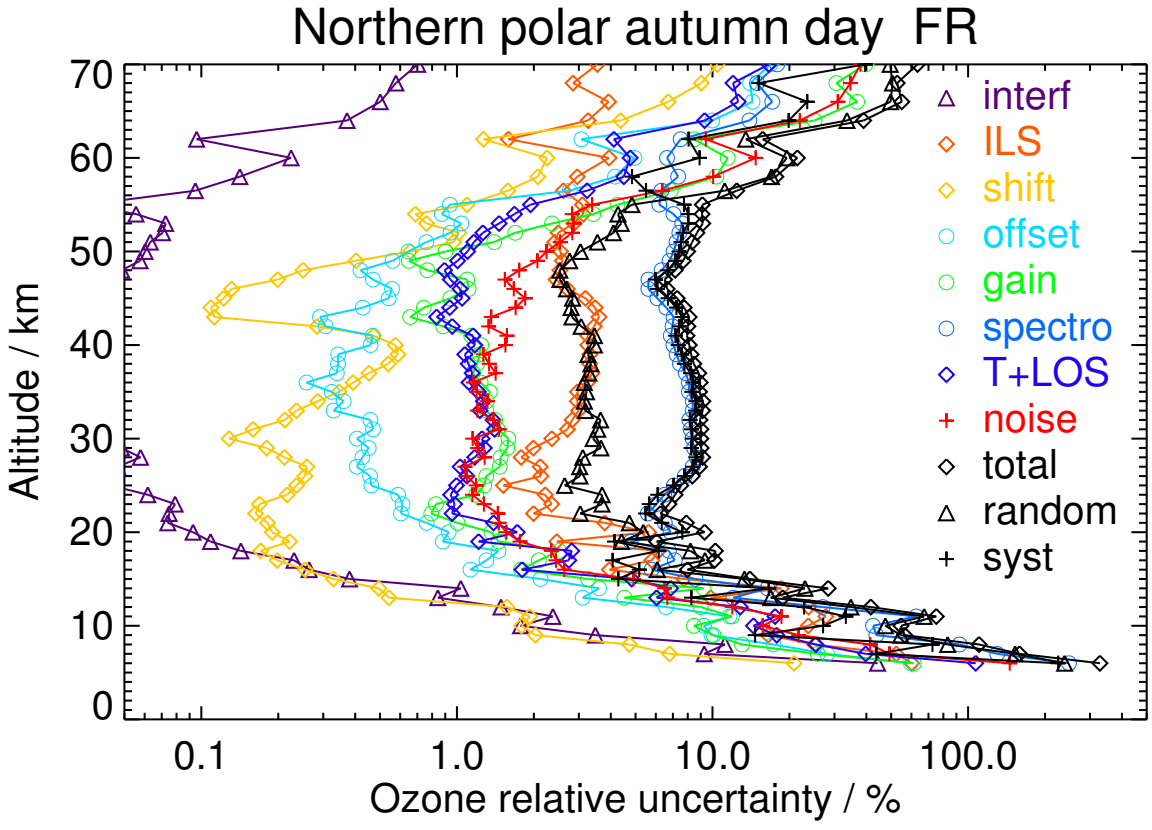

Figure S7. V8H_O3_61 Northern polar autumn day

Table S9. Ozone error budget for Northern polar autumn night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.06	34.37	52.59	16.77	49.59	52.83	>100	82.75	>100	>100	>100	>100
9	0.23	3.71	11.74	2.64	8.88	9.52	43.09	18.26	23.17	54.22	10.71	55.27
12	0.49	1.14	12.93	1.14	4.04	5.98	19.13	10.36	10.08	23.23	16.04	28.23
15	1.15	0.31	6.55	0.31	1.58	3.09	7.19	4.24	4.13	10.26	6.05	11.91
18	2.15	0.13	3.33	0.16	0.87	1.74	4.43	2.25	2.05	5.49	3.71	6.62
21	3.12	0.07	2.92	0.18	0.59	0.95	6.24	1.26	1.38	3.79	6.16	7.23
24	3.70	0.07	2.21	0.24	0.45	1.05	7.69	0.95	1.26	2.55	7.84	8.24
27	4.02	0.05	1.95	0.29	0.43	1.52	8.20	1.05	1.19	2.94	8.22	8.73
30	4.50	0.04	2.52	0.13	0.36	1.45	7.92	1.12	1.19	3.35	7.93	8.61
33	5.35	0.04	2.91	0.23	0.31	1.29	7.64	1.07	1.17	2.80	7.96	8.43
36	6.10	0.04	3.38	0.36	0.22	1.17	7.92	1.03	1.04	2.28	8.53	8.83
39	6.18	0.03	3.50	0.57	0.27	1.13	7.39	1.04	1.15	2.30	8.11	8.43
42	5.37	0.03	3.80	0.33	0.28	0.78	7.39	1.03	1.29	2.28	8.21	8.52
45	4.09	0.05	3.38	0.14	0.49	0.87	6.62	1.09	1.83	2.54	7.37	7.79
48	3.04	0.05	2.49	0.29	0.39	1.05	6.34	0.92	1.80	2.59	6.73	7.21
52	2.01	0.07	2.30	0.86	0.91	1.53	6.64	1.15	2.65	3.76	6.88	7.85
56	1.38	0.05	2.59	1.06	2.41	4.44	4.75	2.34	4.50	7.53	5.00	9.03
60	1.21	0.12	2.76	1.09	2.84	5.74	4.87	2.90	5.28	8.76	5.75	10.48
64	1.19	0.17	3.07	0.90	3.46	5.90	6.63	3.44	5.66	10.18	6.42	12.04
68	1.35	0.12	2.99	1.86	4.16	7.91	4.70	5.90	7.22	12.29	7.10	14.19

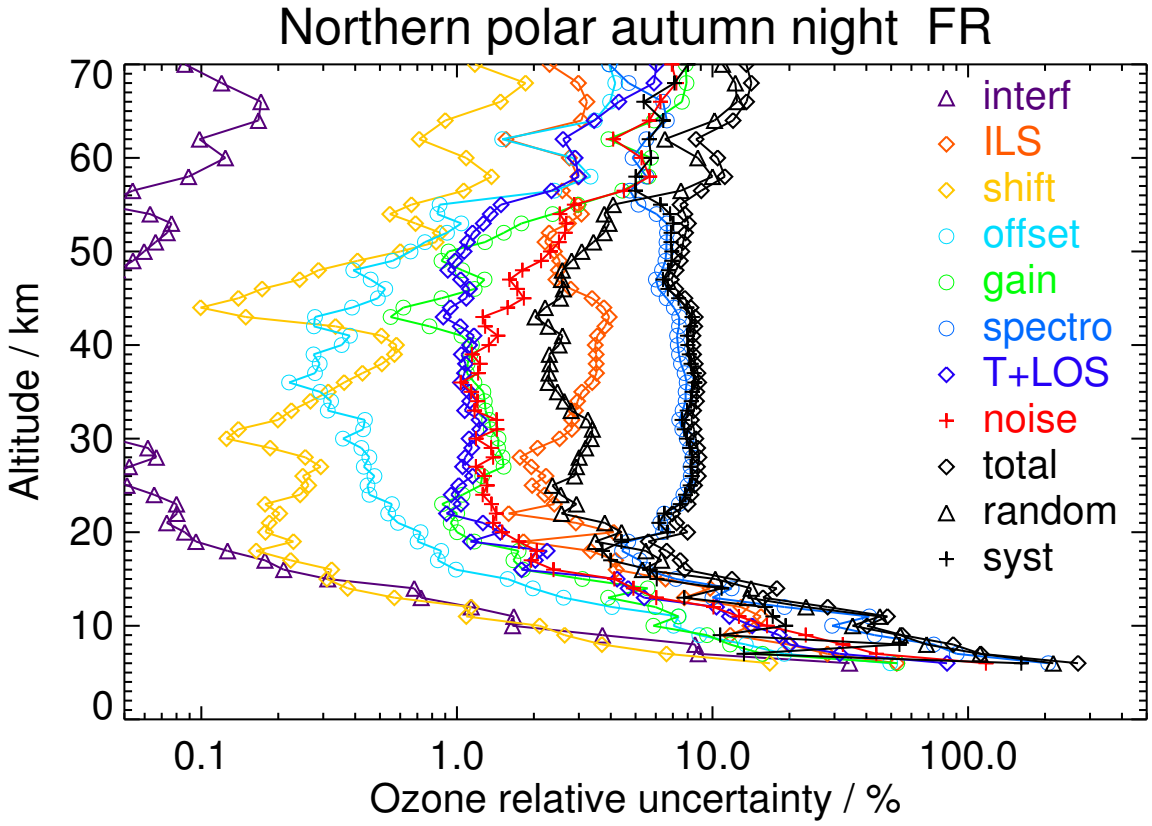

Figure S8. V8H_O3_61 Northern polar autumn night

Table S10. Ozone error budget for Northern midlatitude winter day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.02	21.73	>100	12.42	68.88	71.52	>100	96.93	>100	>100	>100	>100
9	0.21	3.11	20.33	2.26	8.98	9.53	42.62	13.82	17.76	50.67	18.83	54.06
12	0.65	0.70	7.21	0.55	2.44	2.73	12.46	4.24	5.02	15.27	5.61	16.27
15	1.35	0.30	4.49	0.40	1.16	2.00	6.65	1.71	2.47	7.25	5.16	8.89
18	2.72	0.10	1.45	0.31	0.65	0.73	5.21	0.95	1.59	4.17	4.04	5.81
21	4.58	0.08	0.85	0.14	0.51	1.01	5.08	0.75	1.21	2.23	4.99	5.46
24	5.70	0.05	0.85	0.12	0.37	1.26	6.61	0.86	1.02	1.90	6.66	6.93
27	6.38	0.08	0.88	0.15	0.37	1.53	7.29	0.95	1.01	1.88	7.40	7.63
30	6.65	0.04	2.50	0.18	0.36	1.42	7.38	1.16	1.08	2.08	7.81	8.08
33	6.59	0.04	2.73	0.19	0.31	1.30	7.90	1.21	0.96	2.12	8.34	8.61
36	6.53	0.05	3.06	0.30	0.27	1.16	7.23	1.09	1.03	2.07	7.82	8.09
39	6.19	0.02	2.61	0.37	0.38	1.45	6.54	1.08	1.18	2.31	7.02	7.39
42	5.48	0.07	3.49	0.19	0.34	0.59	6.72	0.75	1.12	1.97	7.46	7.72
45	4.69	0.04	2.39	0.35	0.90	1.60	4.82	0.95	1.19	2.58	5.30	5.89
48	3.77	0.07	2.50	0.35	0.46	0.57	6.33	0.79	1.63	2.37	6.69	7.09
52	2.36	0.04	2.73	0.55	0.75	2.88	7.36	1.31	1.83	3.41	8.02	8.71
56	1.47	0.17	4.32	1.42	3.15	8.18	10.37	3.50	6.43	13.35	8.96	16.08
60	0.84	0.08	3.39	1.37	3.04	9.29	9.49	5.04	7.25	11.73	11.80	16.64
64	0.58	0.35	4.76	4.47	12.19	31.87	18.61	13.74	20.49	41.01	21.90	46.49
68	0.34	0.34	4.46	6.40	10.89	27.78	16.01	11.70	22.94	41.53	12.09	43.25

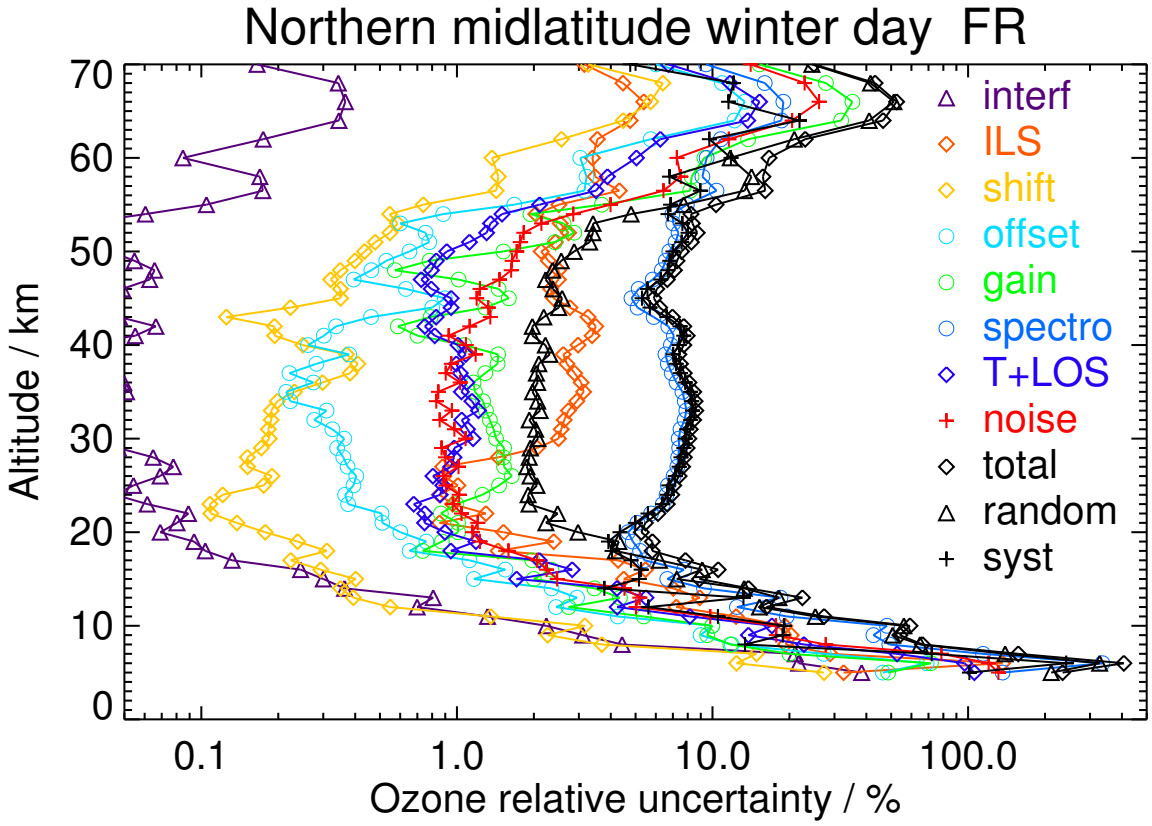

Figure S9. V8H_O3_61 Northern midlatitude winter day

Table S11. Ozone error budget for Northern midlatitude winter night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.01	93.27	>100	87.10	>100	>100	>100	>100	>100	>100	>100	>100
9	0.22	2.74	28.31	2.21	13.32	11.15	57.77	21.39	22.43	47.64	56.07	73.57
12	0.73	0.71	10.73	0.68	3.14	4.45	14.12	5.48	5.84	17.07	10.86	20.23
15	1.51	0.17	4.01	0.25	1.29	2.34	5.68	2.12	2.64	7.23	3.85	8.19
18	2.88	0.09	2.43	0.22	0.82	1.52	4.28	1.19	1.49	3.93	3.93	5.56
21	4.61	0.08	1.36	0.14	0.58	1.19	4.42	0.75	1.04	2.63	4.23	4.98
24	5.76	0.05	1.01	0.11	0.36	1.15	6.11	0.71	0.89	1.67	6.19	6.41
27	6.61	0.09	0.95	0.14	0.33	1.50	6.92	0.79	0.86	1.78	7.03	7.25
30	6.79	0.05	2.33	0.12	0.32	1.44	7.52	1.01	0.93	2.00	7.87	8.12
33	6.64	0.05	2.68	0.19	0.28	1.30	7.81	1.10	0.89	1.85	8.28	8.48
36	6.84	0.05	3.08	0.29	0.25	1.17	7.45	1.05	0.94	1.95	8.05	8.28
39	6.56	0.03	3.04	0.41	0.26	1.28	7.22	1.05	1.06	2.22	7.78	8.09
42	5.83	0.06	3.47	0.18	0.32	0.73	7.11	0.76	0.97	1.94	7.82	8.05
45	4.80	0.06	2.71	0.26	0.64	1.24	5.47	0.91	1.27	2.46	5.97	6.46
48	3.79	0.08	2.66	0.31	0.47	0.78	6.18	0.79	1.55	2.14	6.68	7.01
52	2.43	0.03	2.67	0.47	1.02	3.06	6.82	1.29	1.89	3.26	7.67	8.34
56	1.98	0.17	3.38	1.20	2.71	5.29	8.59	2.55	5.12	9.64	7.86	12.44
60	1.30	0.24	2.32	0.75	3.81	8.02	5.46	5.71	6.44	10.96	8.28	13.74
64	1.68	0.30	3.48	1.46	5.74	12.33	9.08	6.64	7.75	15.06	12.62	19.64
68	1.17	0.20	2.90	2.09	5.09	9.58	8.86	6.59	8.58	17.25	5.33	18.06

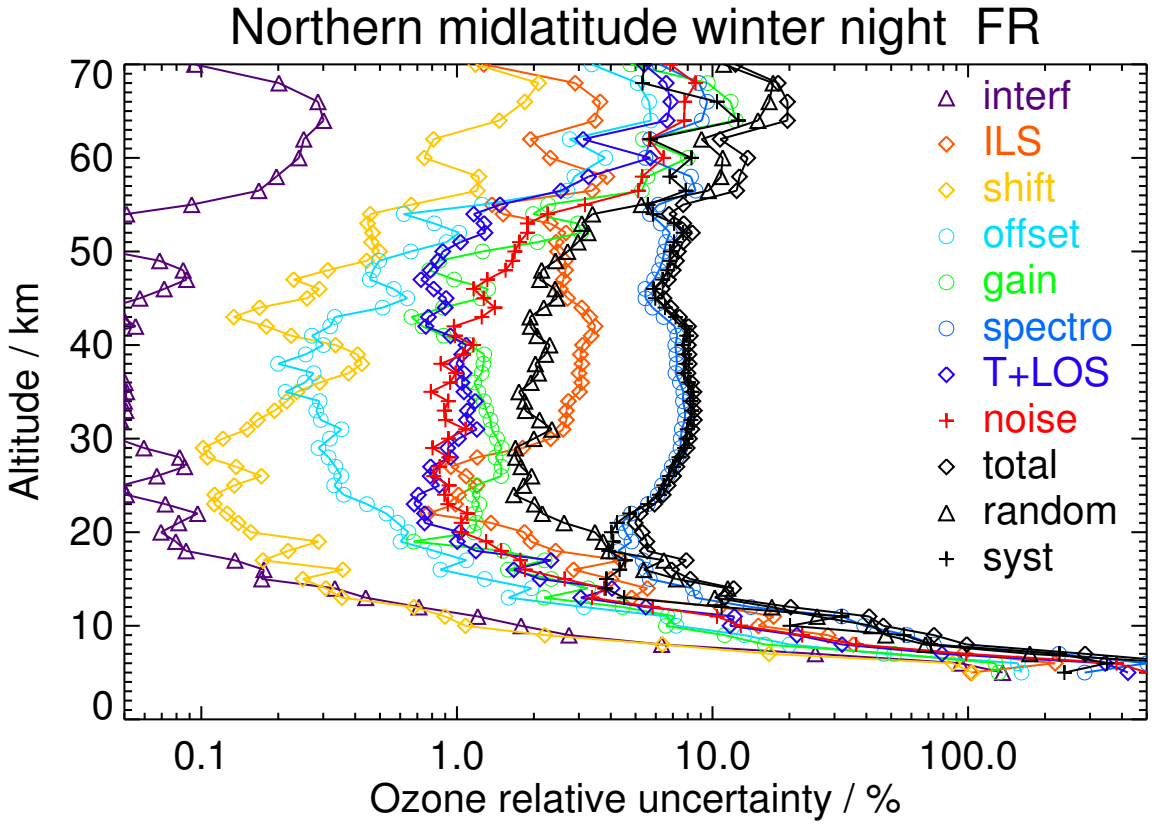

Figure S10. V8H_O3_61 Northern midlatitude winter night

Table S12. Ozone error budget for Northern midlatitude spring day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.09	36.95	57.07	25.74	33.70	17.13	48.24	83.29	94.95	>100	56.86	>100
9	0.27	5.95	12.60	4.28	7.55	7.36	41.75	15.04	18.97	45.15	24.78	51.50
12	0.68	0.93	9.88	0.95	3.06	4.51	16.53	6.37	6.05	20.74	7.05	21.90
15	1.00	0.40	8.62	0.46	1.88	3.49	9.17	4.36	3.91	13.62	4.81	14.45
18	2.14	0.14	4.42	0.31	0.95	1.68	6.65	1.94	1.82	7.66	4.00	8.64
21	3.78	0.10	1.74	0.22	0.57	0.98	5.09	0.89	1.23	3.40	4.58	5.70
24	5.09	0.06	1.05	0.23	0.47	1.29	5.81	0.81	1.05	2.16	5.83	6.22
27	6.24	0.07	0.97	0.22	0.33	1.42	6.61	0.84	0.94	1.90	6.69	6.96
30	7.36	0.05	1.92	0.32	0.39	1.56	6.37	0.94	0.91	2.05	6.66	6.97
33	8.20	0.04	2.77	0.27	0.25	1.32	6.95	0.98	0.78	1.70	7.52	7.71
36	8.17	0.04	3.13	0.25	0.18	1.34	7.09	1.09	0.76	1.70	7.80	7.98
39	7.18	0.02	3.21	0.30	0.26	1.35	6.70	1.14	0.91	1.87	7.47	7.70
42	5.57	0.06	3.87	0.31	0.25	0.82	6.53	1.01	1.07	1.91	7.54	7.78
45	4.07	0.03	3.44	0.62	0.65	1.34	4.84	0.80	1.04	1.98	5.97	6.29
48	2.95	0.05	1.96	0.41	0.46	0.69	5.66	0.83	1.55	2.19	5.92	6.31
52	1.97	0.06	2.07	0.61	0.38	2.23	5.36	0.86	1.67	2.30	6.06	6.48
56	1.37	0.13	3.46	1.37	2.59	4.39	4.50	2.02	5.09	7.81	5.39	9.49
60	0.90	0.16	1.86	2.63	2.15	6.29	8.23	2.47	6.20	10.03	8.14	12.92
64	0.73	0.46	3.05	10.39	8.22	28.29	12.13	6.16	19.03	27.42	27.95	39.15
68	0.38	0.36	3.27	6.95	8.96	27.07	19.74	9.18	17.35	25.50	31.57	40.59

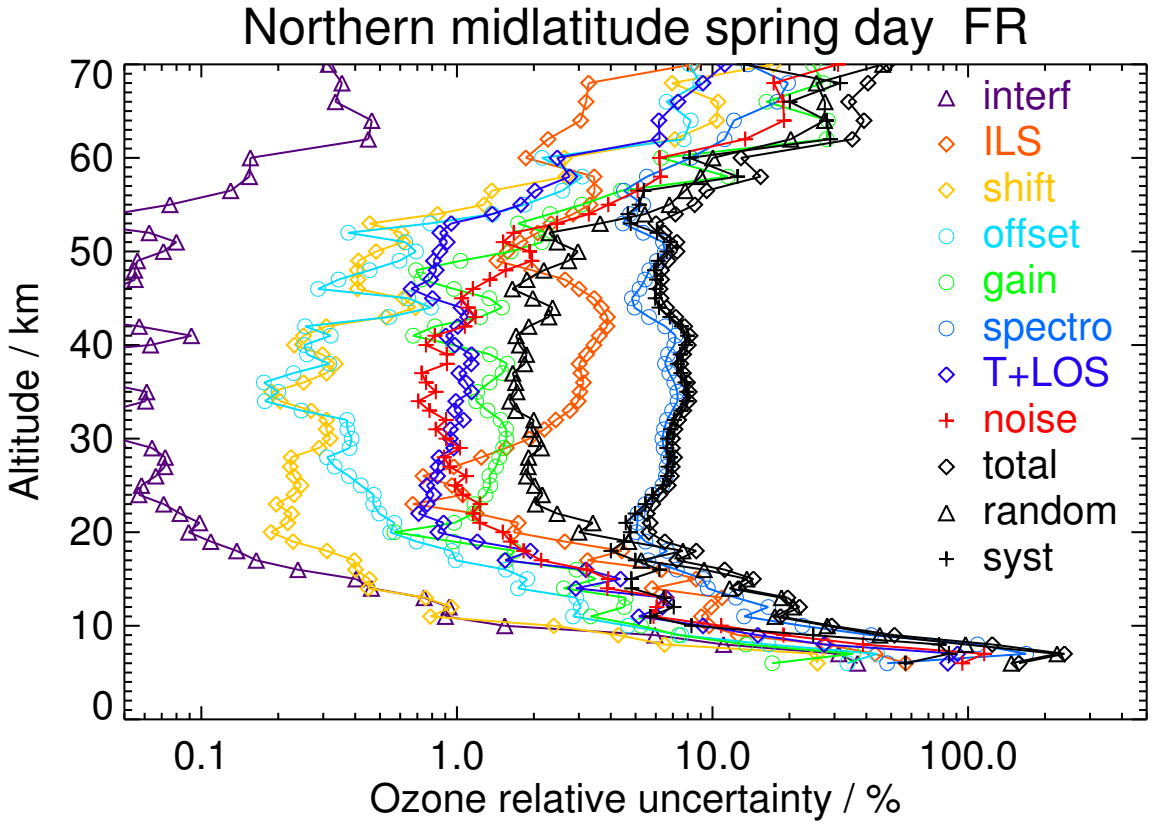

Figure S11. V8H_O3_61 Northern midlatitude spring day

Table S13. Ozone error budget for Northern midlatitude spring night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.30	4.69	8.56	3.67	6.11	7.07	35.59	11.00	15.81	33.71	26.41	42.82
12	0.73	0.63	6.22	0.73	2.34	3.27	14.43	5.06	5.06	15.03	9.45	17.75
15	1.16	0.35	4.83	0.43	1.40	2.19	6.77	3.12	3.04	9.06	3.64	9.76
18	2.23	0.12	2.55	0.35	0.81	1.06	5.36	1.52	1.72	5.18	3.95	6.52
21	3.85	0.10	1.34	0.17	0.57	0.98	4.69	0.80	1.22	2.90	4.34	5.22
24	5.20	0.06	0.61	0.25	0.50	1.34	5.11	0.75	0.99	1.98	5.12	5.49
27	6.84	0.07	0.85	0.19	0.33	1.35	6.11	0.78	0.88	1.51	6.26	6.44
30	7.90	0.04	2.17	0.32	0.35	1.39	6.62	0.93	0.87	1.76	7.01	7.23
33	8.59	0.04	2.68	0.25	0.22	1.22	7.24	1.03	0.74	1.47	7.78	7.92
36	8.47	0.05	2.99	0.26	0.19	1.43	7.01	1.09	0.75	1.52	7.73	7.87
39	7.40	0.02	2.91	0.26	0.27	1.54	6.66	1.19	0.91	1.76	7.38	7.59
42	5.57	0.08	3.80	0.30	0.26	0.71	6.72	0.95	1.01	1.71	7.70	7.89
45	4.09	0.03	3.82	0.74	0.86	1.78	4.64	0.91	1.04	2.28	6.11	6.52
48	3.17	0.06	1.91	0.40	0.39	0.63	5.09	0.74	1.40	2.04	5.35	5.72
52	2.29	0.05	1.87	0.61	0.37	2.34	5.46	0.82	1.43	2.21	6.10	6.48
56	1.73	0.08	2.92	1.22	2.04	3.72	5.45	1.90	4.15	7.26	5.09	8.87
60	1.41	0.08	1.75	1.66	1.50	5.34	6.00	2.05	3.75	6.54	6.94	9.53
64	1.44	0.20	3.65	5.43	4.32	13.24	8.15	4.81	8.21	15.64	12.20	19.84
68	1.34	0.13	2.81	1.47	4.13	9.98	7.45	5.60	6.22	11.41	11.04	15.88

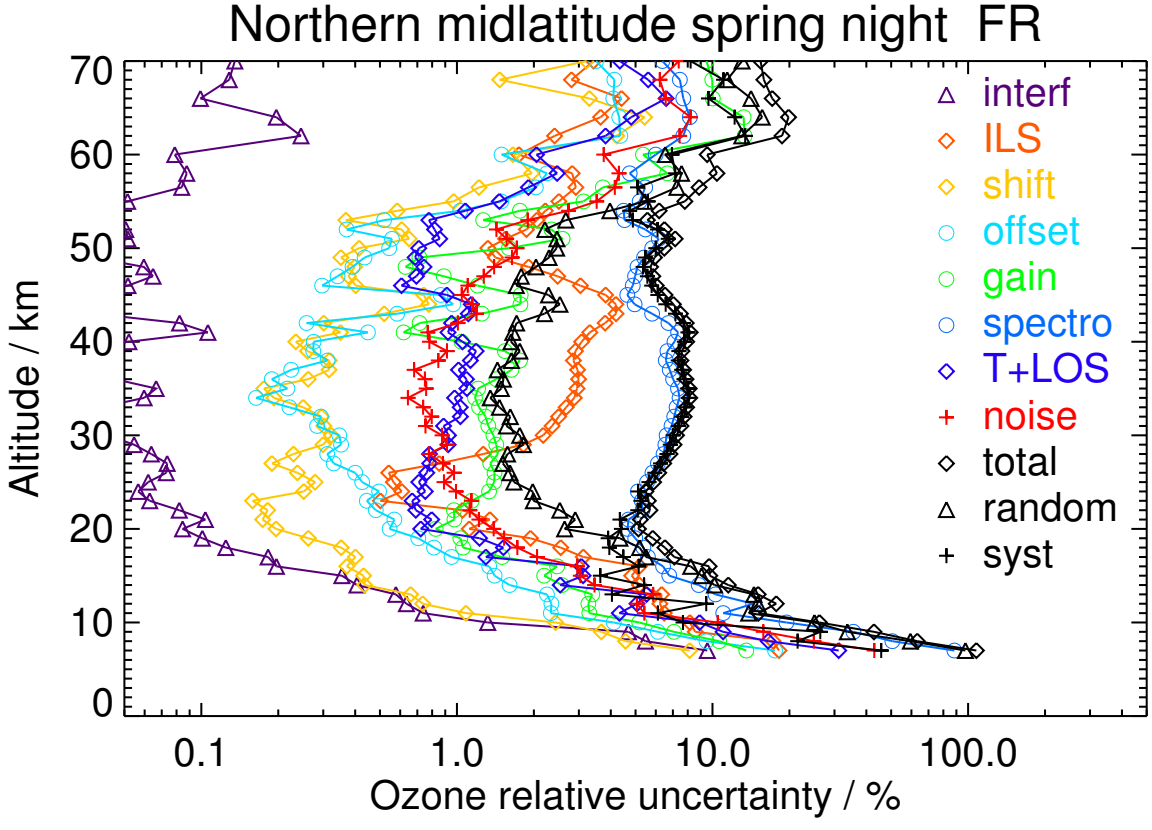

Figure S12. V8H_O3_61 Northern midlatitude spring night

Table S14. Ozone error budget for Northern midlatitude summer day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.12	8.91	36.54	5.75	12.56	11.53	62.52	25.99	28.99	82.16	20.30	84.63
12	0.20	2.27	29.58	3.36	8.79	11.04	41.02	16.58	16.32	56.99	8.17	57.57
15	0.43	0.75	20.95	1.67	5.05	8.59	14.48	7.54	7.32	23.02	18.22	29.36
18	0.97	0.27	4.50	0.85	1.81	2.63	7.43	2.37	3.98	8.71	5.65	10.38
21	2.59	0.12	2.08	0.38	0.88	0.97	4.37	0.97	1.95	3.76	3.98	5.48
24	4.44	0.05	0.34	0.20	0.52	1.08	4.51	0.71	1.31	1.79	4.57	4.91
27	6.75	0.08	0.18	0.17	0.42	1.58	5.58	0.76	1.00	1.49	5.77	5.96
30	7.88	0.03	1.99	0.39	0.43	1.62	6.30	0.97	0.97	1.67	6.77	6.97
33	8.37	0.03	2.45	0.22	0.25	1.33	7.08	1.07	0.78	1.54	7.58	7.73
36	8.16	0.05	2.80	0.23	0.19	1.46	6.94	1.13	0.83	1.56	7.60	7.75
39	7.14	0.03	2.77	0.22	0.27	1.74	6.50	1.17	0.96	1.67	7.25	7.44
42	5.61	0.08	3.39	0.29	0.24	0.70	6.74	0.82	0.89	1.40	7.56	7.68
45	4.16	0.04	3.51	0.47	0.64	1.19	5.01	0.88	1.12	1.92	6.15	6.44
48	3.11	0.08	2.47	0.43	0.37	0.79	5.12	0.77	1.41	1.87	5.68	5.98
52	2.22	0.06	2.07	0.73	0.41	2.57	5.91	0.93	1.66	2.45	6.64	7.07
56	1.66	0.11	2.57	2.10	1.59	3.69	6.90	2.34	5.52	8.30	6.46	10.52
60	1.14	0.08	2.94	2.24	1.92	11.20	9.15	3.33	5.22	8.29	14.00	16.27
64	0.59	0.63	4.14	8.76	13.57	55.58	18.92	16.63	24.14	36.59	56.97	67.71
68	0.41	0.43	7.47	10.03	8.78	15.32	28.63	8.79	24.52	31.82	30.88	44.34

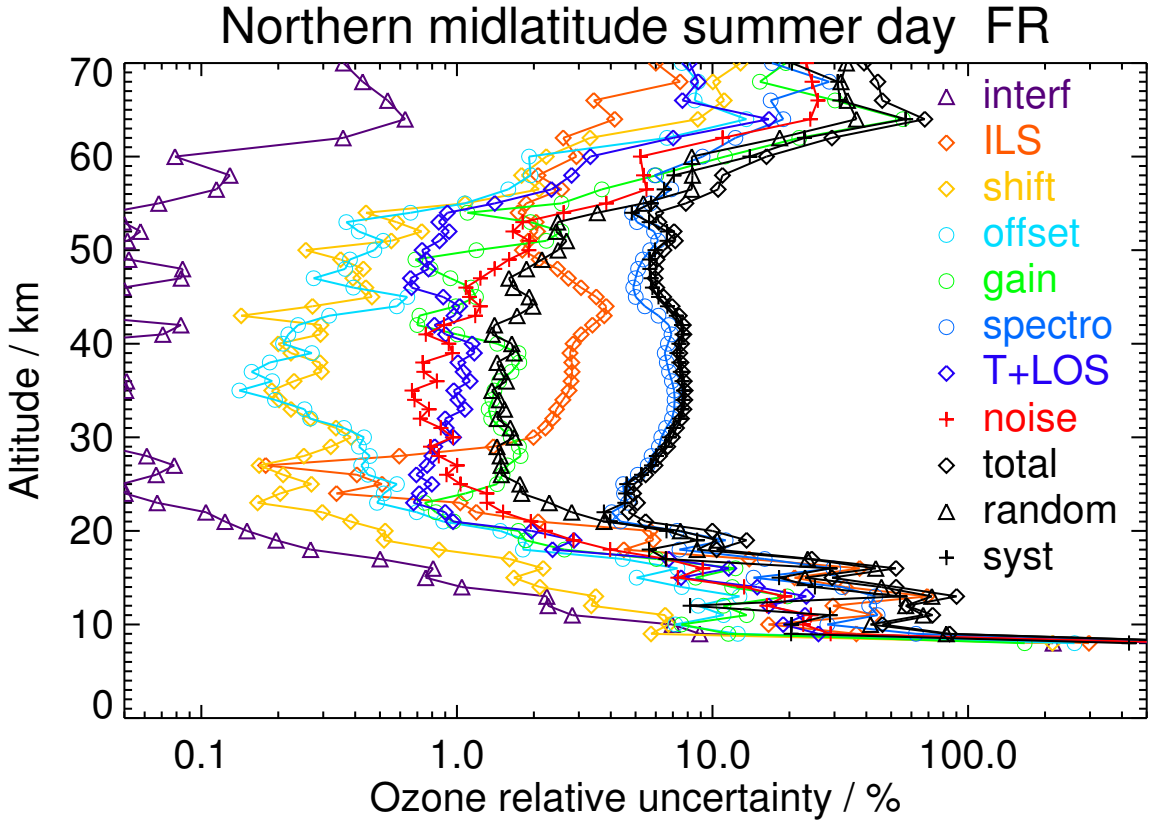

Figure S13. V8H_O3_61 Northern midlatitude summer day

Table S15. Ozone error budget for Northern midlatitude summer night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.06	10.75	70.93	16.50	29.19	34.32	>100	73.55	68.74	>100	89.70	>100
12	0.26	2.38	34.61	3.82	10.05	14.82	50.90	21.42	15.76	62.48	30.54	69.55
15	0.38	0.68	17.95	1.60	4.98	8.31	21.97	9.37	8.85	31.78	7.61	32.67
18	1.05	0.22	4.96	0.67	1.61	2.34	7.60	2.21	3.69	9.07	5.22	10.46
21	2.33	0.12	1.85	0.43	0.91	1.05	4.39	1.01	2.07	3.98	3.78	5.49
24	4.22	0.05	0.47	0.23	0.49	0.97	4.26	0.69	1.32	1.90	4.27	4.67
27	6.45	0.07	0.22	0.22	0.40	1.54	5.39	0.76	1.01	1.52	5.56	5.76
30	7.59	0.04	1.89	0.37	0.37	1.61	6.11	0.95	0.97	1.63	6.55	6.75
33	8.20	0.03	2.41	0.26	0.25	1.32	6.83	1.04	0.80	1.52	7.34	7.49
36	8.21	0.06	2.85	0.20	0.18	1.31	6.99	1.09	0.83	1.50	7.65	7.79
39	7.27	0.03	2.83	0.28	0.23	1.73	6.41	1.13	0.94	1.63	7.19	7.38
42	5.69	0.10	3.29	0.36	0.33	0.48	7.01	0.86	0.82	1.38	7.74	7.86
45	4.16	0.03	3.62	0.53	0.72	1.48	4.67	1.05	1.21	2.03	6.03	6.36
48	3.34	0.07	2.37	0.33	0.33	0.83	4.75	0.69	1.36	1.66	5.35	5.61
52	2.48	0.04	1.75	0.52	0.50	2.61	5.95	0.83	1.66	2.32	6.62	7.01
56	1.89	0.10	1.70	1.02	1.39	3.66	6.25	1.72	4.71	6.49	6.43	9.14
60	1.62	0.09	1.68	1.23	2.44	10.44	6.45	4.04	4.61	7.26	12.07	14.08
64	1.06	0.30	2.30	4.77	9.60	33.63	12.98	13.80	14.42	24.68	34.77	42.64
68	1.15	0.19	2.40	4.50	4.86	7.93	13.02	7.40	9.32	15.21	13.87	20.59

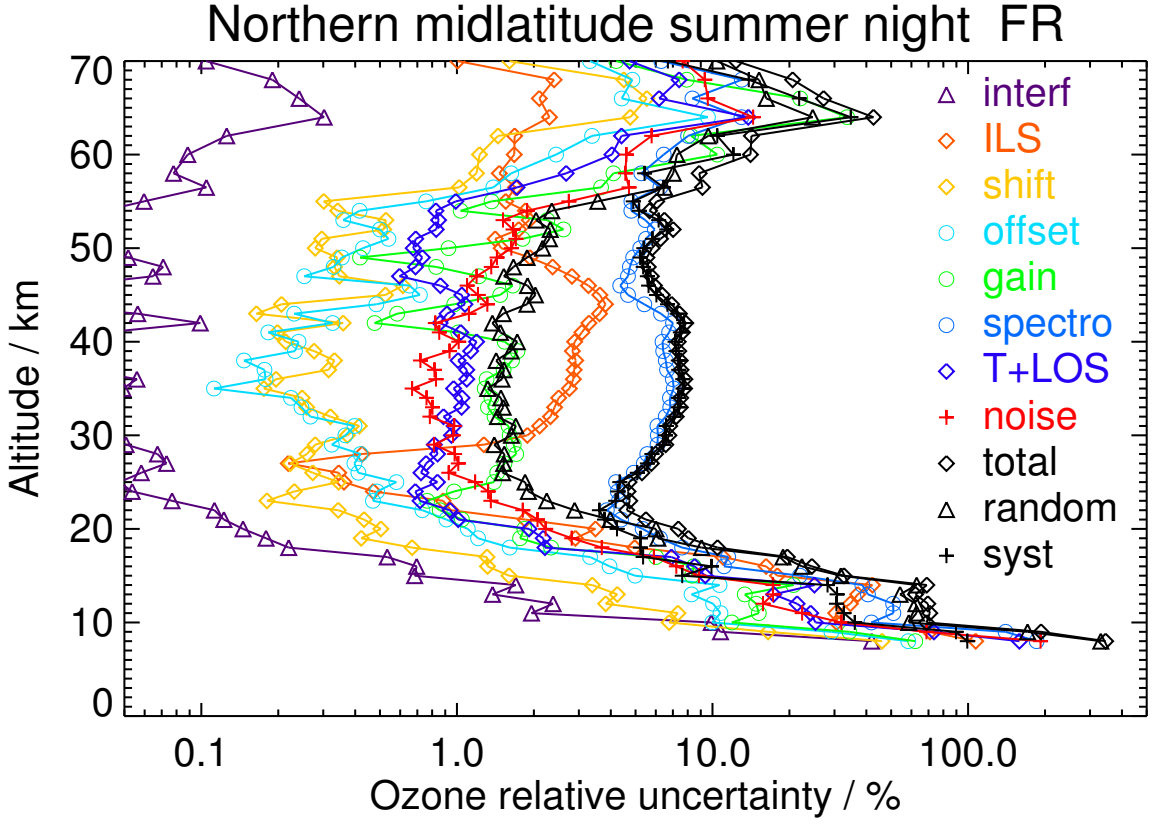

Figure S14. V8H_O3_61 Northern midlatitude summer night

Table S16. Ozone error budget for Northern midlatitude autumn day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.10	8.65	49.38	13.38	25.77	21.14	>100	50.50	67.33	>100	52.87	>100
12	0.18	2.86	75.40	6.09	17.00	28.16	73.19	33.72	28.54	>100	57.76	>100
15	0.49	0.63	29.77	1.98	6.62	11.42	30.62	10.63	9.33	45.39	11.95	46.94
18	1.39	0.19	9.21	0.60	2.15	3.61	12.95	3.45	3.12	12.83	11.29	17.09
21	2.70	0.09	2.56	0.30	0.77	1.22	5.23	1.14	1.70	4.58	4.39	6.35
24	4.35	0.05	0.76	0.28	0.58	1.32	4.43	0.72	1.16	2.16	4.42	4.92
27	6.17	0.06	0.58	0.24	0.39	1.52	6.05	0.76	0.93	1.86	6.12	6.39
30	7.17	0.04	1.93	0.24	0.36	1.64	6.58	0.94	0.89	1.95	6.91	7.18
33	7.69	0.03	2.59	0.24	0.25	1.32	7.20	1.01	0.80	1.61	7.71	7.88
36	7.80	0.05	3.03	0.25	0.18	1.18	7.33	1.03	0.83	1.52	7.99	8.13
39	7.29	0.02	2.89	0.41	0.26	1.46	6.61	1.03	0.92	1.65	7.32	7.50
42	6.15	0.06	3.37	0.18	0.21	0.65	7.06	0.79	0.84	1.40	7.81	7.94
45	4.68	0.02	3.46	0.24	0.58	1.20	5.40	0.96	1.29	1.95	6.46	6.75
48	3.38	0.08	2.60	0.34	0.42	0.78	6.01	0.80	1.43	1.86	6.56	6.82
52	2.20	0.03	2.52	0.50	0.81	3.07	6.62	1.13	1.99	2.94	7.55	8.10
56	1.36	0.13	2.92	2.03	3.29	9.17	8.75	3.69	7.87	11.30	11.48	16.11
60	1.04	0.18	2.47	1.76	3.02	10.86	8.01	4.55	7.36	11.16	12.28	16.59
64	0.30	0.64	4.02	13.77	23.24	74.17	29.88	27.22	45.69	69.15	72.02	99.85
68	0.40	0.24	4.07	5.93	7.25	17.57	14.30	6.47	21.22	30.01	14.46	33.31

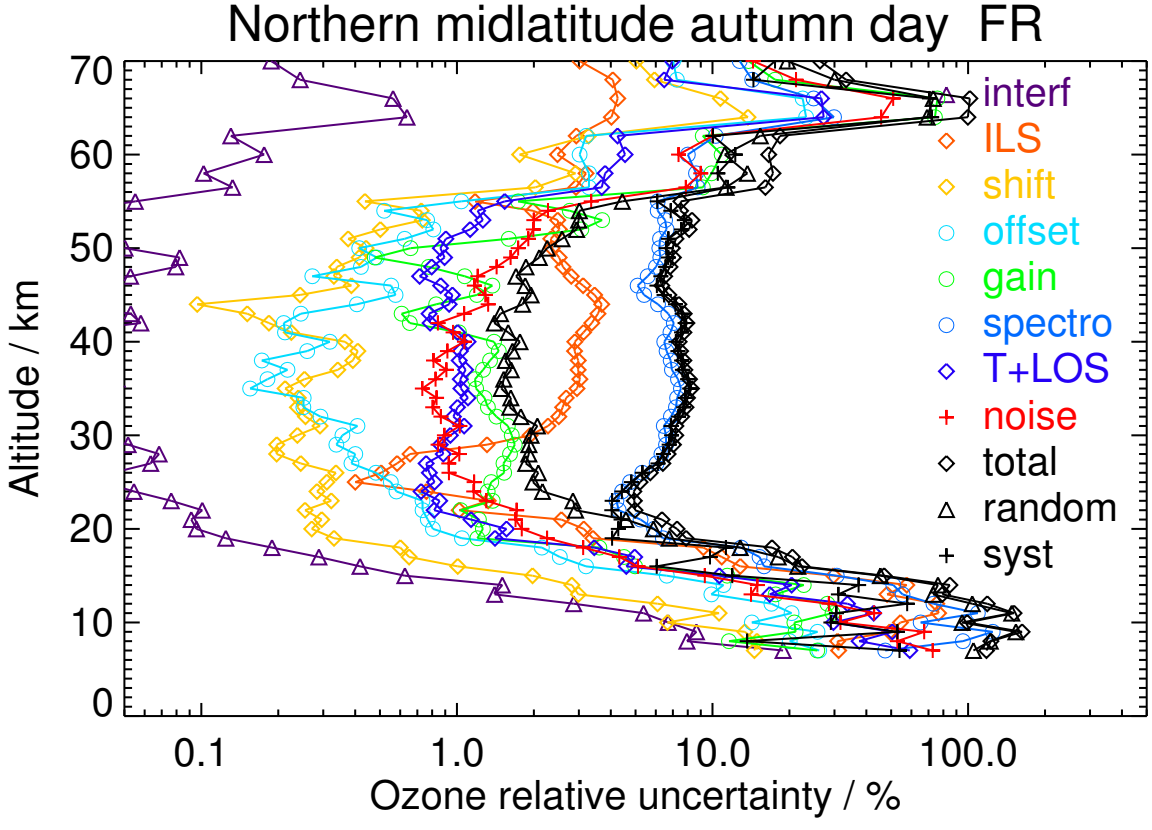

Figure S15. V8H_O3_61 Northern midlatitude autumn day

Table S17. Ozone error budget for Northern midlatitude autumn night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.09	23.38	50.82	9.98	31.91	43.70	98.01	50.20	78.18	>100	73.10	>100
9	0.19	5.31	18.16	4.51	12.47	10.61	56.99	24.06	31.42	68.78	27.02	73.89
12	0.26	1.92	42.20	3.12	11.04	20.36	47.95	22.81	18.84	59.92	43.75	74.19
15	0.66	0.52	13.11	0.91	3.84	6.71	14.24	7.50	6.87	22.57	5.41	23.21
18	1.56	0.16	5.75	0.41	1.58	2.96	7.56	2.86	2.62	8.73	6.37	10.81
21	2.79	0.08	2.32	0.22	0.70	1.11	4.96	1.15	1.54	4.03	4.38	5.95
24	4.45	0.06	1.14	0.28	0.58	1.26	4.74	0.74	1.12	2.56	4.59	5.25
27	6.10	0.06	0.94	0.27	0.42	1.58	6.50	0.78	0.91	2.21	6.51	6.88
30	6.75	0.05	2.07	0.19	0.31	1.61	7.22	0.96	0.91	1.90	7.57	7.80
33	7.23	0.04	2.68	0.25	0.25	1.41	7.29	1.01	0.88	1.63	7.85	8.02
36	7.49	0.04	3.14	0.26	0.17	1.19	7.49	1.03	0.84	1.54	8.18	8.32
39	7.29	0.02	3.14	0.45	0.24	1.34	6.87	1.01	0.91	1.65	7.63	7.81
42	6.15	0.04	3.49	0.19	0.22	0.74	7.09	0.87	0.92	1.50	7.90	8.04
45	4.55	0.02	3.51	0.20	0.48	1.00	6.08	1.02	1.42	2.05	7.03	7.32
48	3.39	0.07	2.62	0.29	0.44	0.94	5.83	0.78	1.45	2.04	6.37	6.69
52	2.29	0.04	2.31	0.46	0.97	2.69	5.93	1.13	1.92	3.09	6.65	7.34
56	1.71	0.15	1.97	0.77	2.43	5.51	6.72	2.65	5.40	8.20	7.41	11.05
60	1.49	0.11	1.90	1.06	2.34	7.06	5.48	3.67	4.99	9.26	6.54	11.33
64	1.14	0.31	3.63	2.71	5.45	15.75	7.74	6.43	9.24	18.08	12.58	22.02
68	1.15	0.13	3.16	2.34	4.83	10.59	6.79	6.82	8.07	15.76	7.75	17.57

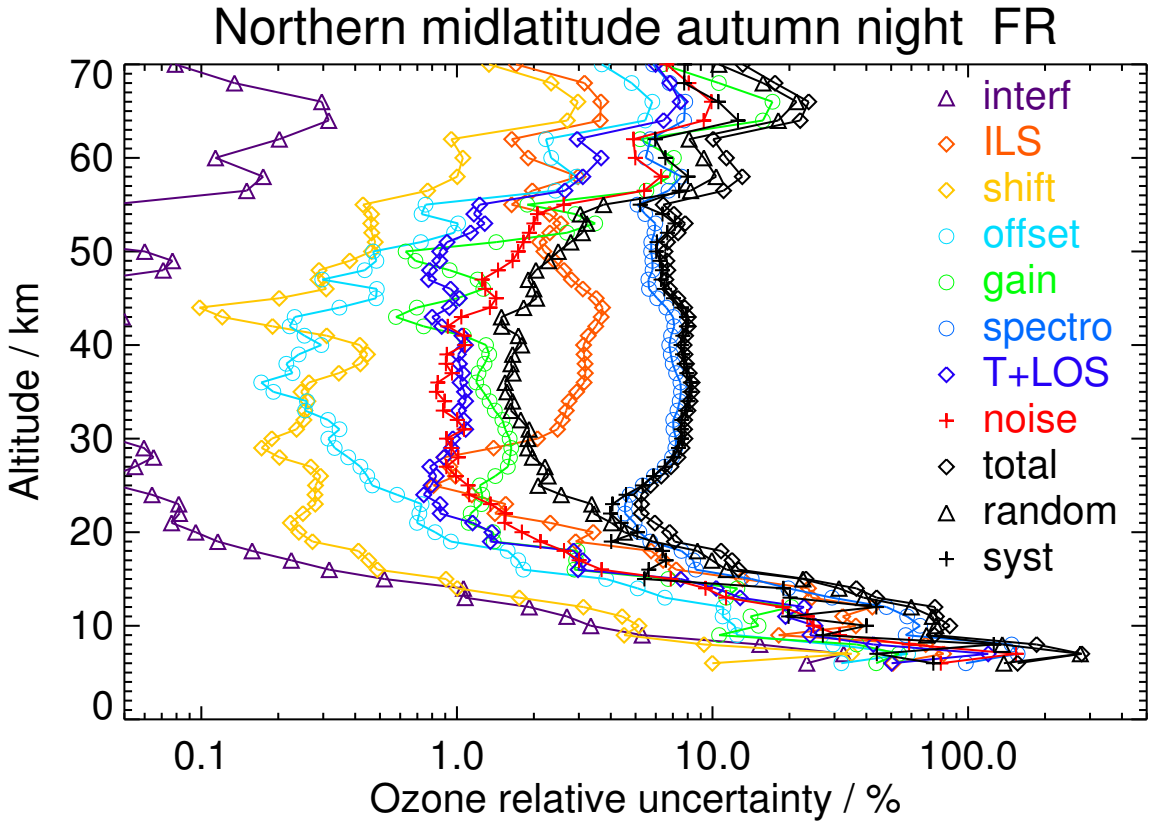

Figure S16. V8H_O3_61 Northern midlatitude autumn night

Table S18. Ozone error budget for Tropics day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.05	19.34	58.78	10.49	23.54	18.18	90.83	52.05	71.49	>100	75.53	>100
12	0.11	5.86	79.46	4.97	15.31	25.07	59.46	33.92	34.67	99.54	56.72	>100
15	0.07	8.65	>100	13.31	32.24	52.02	66.82	70.84	66.00	>100	>100	>100
18	0.25	1.82	23.65	6.42	10.98	21.04	24.47	14.32	18.67	45.25	16.47	48.16
21	1.69	0.20	2.86	0.95	1.69	1.69	8.45	2.44	2.81	5.18	8.56	10.00
24	4.53	0.07	0.79	0.42	0.62	0.97	4.07	0.95	1.22	1.94	4.16	4.59
27	8.23	0.06	0.24	0.29	0.44	1.47	5.10	0.76	0.78	1.40	5.27	5.45
30	10.15	0.04	1.97	0.31	0.33	1.50	6.77	0.84	0.70	1.39	7.17	7.30
33	9.95	0.04	2.87	0.19	0.17	1.27	7.83	1.06	0.66	1.52	8.40	8.53
36	8.87	0.04	3.17	0.20	0.14	1.41	7.56	1.19	0.68	1.55	8.29	8.43
39	7.30	0.04	3.04	0.25	0.22	1.36	6.97	1.18	0.83	1.64	7.69	7.87
42	5.57	0.06	3.86	0.34	0.29	1.03	6.39	1.05	1.05	1.79	7.49	7.70
45	4.15	0.05	3.72	0.54	0.46	1.34	5.06	0.66	1.00	1.76	6.34	6.58
48	3.19	0.05	1.72	0.27	0.37	0.71	5.36	0.72	1.48	2.24	5.49	5.93
52	2.17	0.05	2.21	0.55	0.37	1.78	5.36	0.83	1.75	2.64	5.83	6.40
56	1.47	0.13	4.65	1.71	2.10	4.95	6.31	2.30	4.97	9.32	6.03	11.10
60	1.06	0.20	3.06	2.34	2.70	7.31	7.93	2.58	5.86	11.29	7.21	13.40
64	0.64	0.54	4.85	10.24	8.55	30.11	13.02	6.63	21.18	32.08	27.24	42.08
68	0.35	0.32	8.83	6.54	9.33	24.47	25.45	9.36	18.05	27.59	33.26	43.22

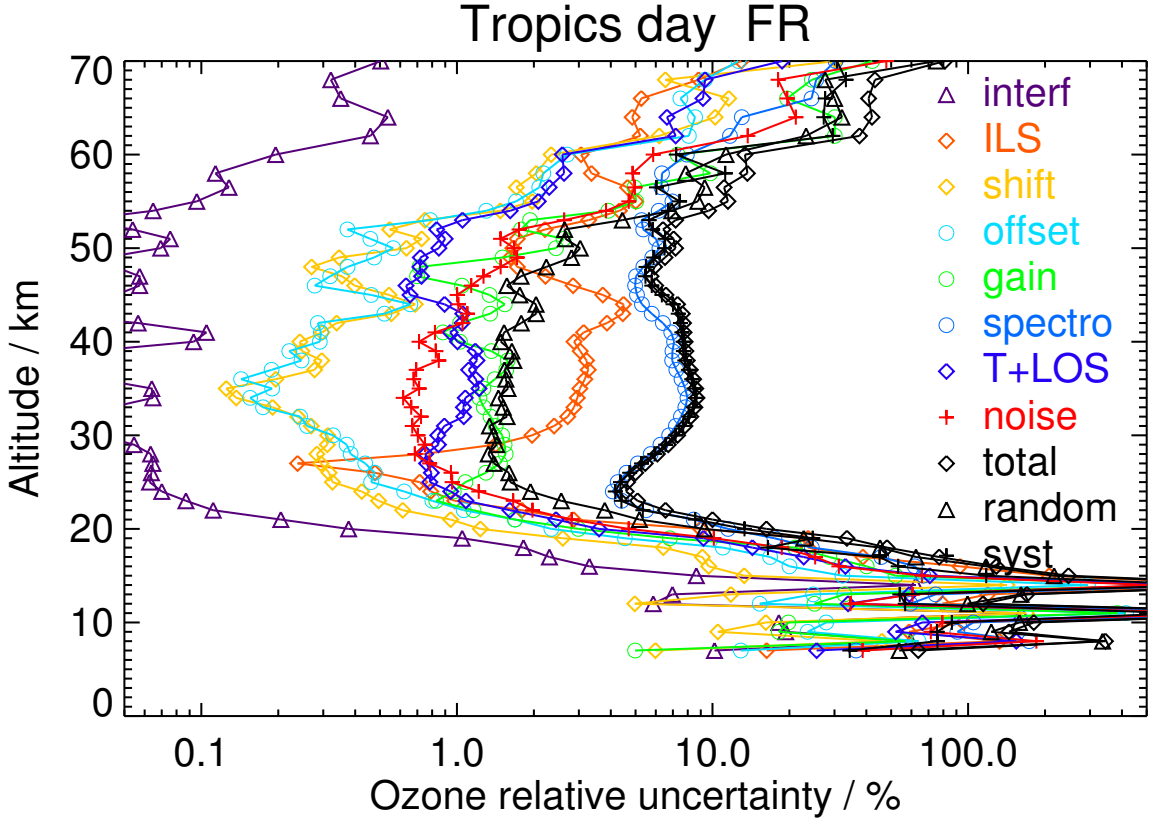

Figure S17. V8H_O3_61 Tropics day

Table S19. Ozone error budget for Tropics night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	-0.01	62.96	>100	41.86	83.45	74.92	>100	>100	>100	>100	>100	>100
12	0.08	10.07	98.60	4.74	19.35	15.63	69.18	50.59	54.78	>100	92.60	>100
15	0.12	5.75	>100	9.18	23.25	38.10	51.75	53.63	43.63	99.75	>100	>100
18	0.21	2.53	24.35	7.23	11.47	24.54	23.83	17.21	22.05	44.22	27.92	52.30
21	1.55	0.23	2.23	1.04	1.91	1.54	9.79	2.70	3.12	5.63	9.67	11.18
24	4.55	0.08	1.02	0.49	0.67	0.98	4.09	1.07	1.22	1.98	4.26	4.70
27	8.46	0.07	0.22	0.31	0.53	1.63	4.67	0.83	0.78	1.42	4.91	5.12
30	10.54	0.04	1.99	0.37	0.36	1.41	6.39	0.83	0.71	1.32	6.82	6.95
33	10.31	0.04	2.55	0.18	0.15	1.32	7.80	1.10	0.62	1.43	8.29	8.41
36	9.01	0.04	2.92	0.24	0.15	1.56	7.24	1.19	0.70	1.53	7.94	8.08
39	7.33	0.02	2.92	0.22	0.20	1.51	6.81	1.26	0.91	1.70	7.54	7.73
42	5.42	0.08	3.63	0.28	0.24	0.76	6.55	1.01	1.07	1.68	7.49	7.68
45	4.02	0.04	4.67	0.67	0.65	1.67	4.76	0.76	1.02	2.00	6.76	7.05
48	3.21	0.04	1.54	0.35	0.38	0.59	4.90	0.72	1.38	2.07	5.01	5.43
52	2.40	0.07	1.62	0.53	0.29	1.45	5.07	0.76	1.37	1.94	5.43	5.77
56	1.74	0.13	4.38	1.47	1.88	4.05	5.13	1.72	3.82	6.24	6.80	9.23
60	1.40	0.11	1.67	1.06	1.25	3.15	6.36	1.75	3.52	5.53	6.39	8.45
64	1.36	0.27	3.75	7.56	3.44	15.42	5.96	4.53	9.77	15.49	15.25	21.73
68	1.32	0.12	1.52	1.52	3.87	8.17	7.88	6.52	6.58	10.68	10.96	15.31

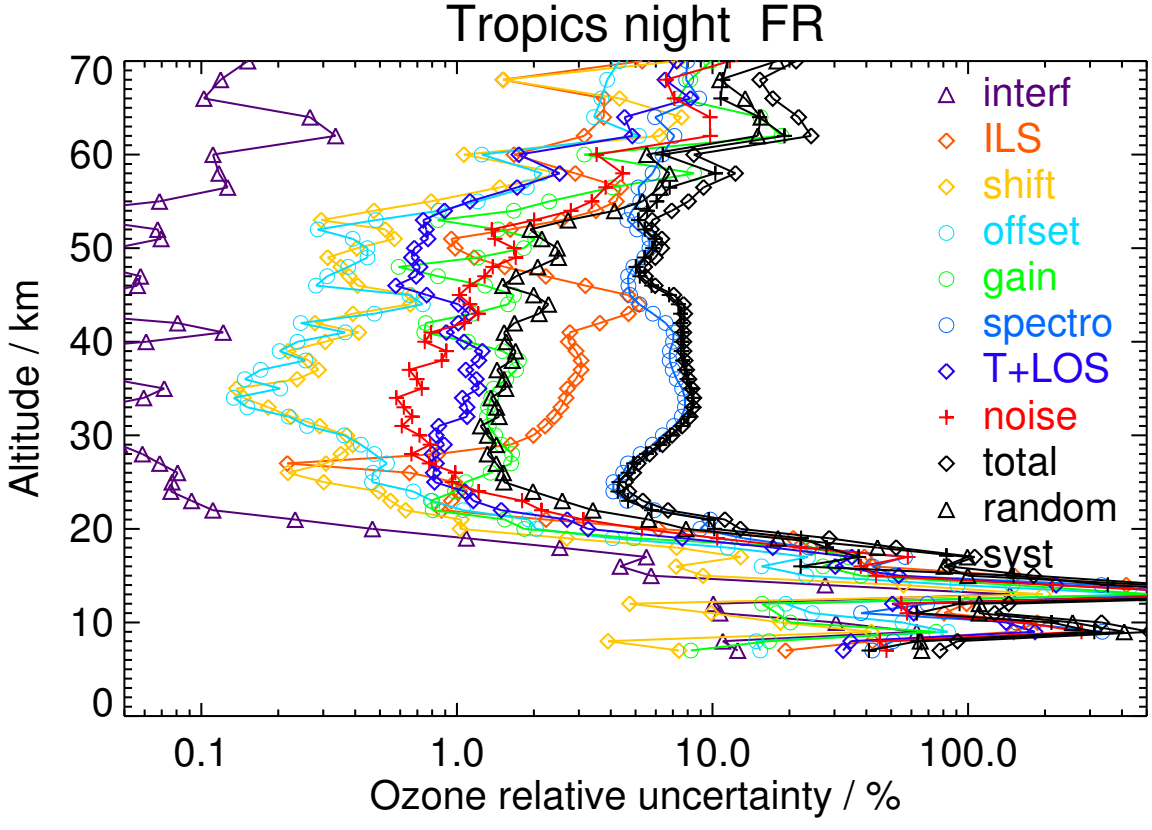

Figure S18. V8H_O3_61 Tropics night

Table S20. Ozone error budget for Southern midlatitude winter day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.04	40.42	61.80	18.44	55.14	68.40	>100	>100	>100	>100	>100	>100
9	0.22	4.04	19.29	2.36	8.62	13.55	37.38	20.24	23.18	51.62	18.20	54.73
12	0.47	1.29	18.52	1.38	5.10	5.95	25.06	11.73	10.58	31.12	17.80	35.85
15	0.87	0.32	7.37	0.46	2.18	2.91	9.27	4.64	5.01	13.45	4.41	14.16
18	1.98	0.15	3.36	0.38	1.05	1.47	5.96	1.92	2.16	5.62	5.20	7.66
21	3.69	0.08	2.08	0.21	0.54	0.80	5.63	0.98	1.33	2.93	5.58	6.30
24	4.93	0.07	1.62	0.29	0.51	1.11	7.30	0.96	1.15	3.05	7.10	7.73
27	5.87	0.06	1.72	0.24	0.42	1.28	8.24	1.07	1.09	2.36	8.33	8.66
30	6.50	0.06	2.43	0.21	0.39	1.46	8.18	1.23	1.14	2.69	8.41	8.83
33	6.85	0.06	2.90	0.28	0.31	1.35	8.04	1.22	1.07	2.30	8.51	8.81
36	7.11	0.06	3.44	0.38	0.26	1.12	8.01	1.16	1.04	2.27	8.64	8.93
39	6.44	0.04	3.42	0.57	0.37	1.30	7.39	1.18	1.16	2.79	7.97	8.44
42	5.20	0.05	3.72	0.21	0.35	0.65	7.26	0.96	1.11	2.90	7.80	8.32
45	3.82	0.07	3.71	0.30	0.59	1.13	6.56	1.18	1.66	3.28	7.20	7.92
48	2.88	0.08	2.49	0.35	0.49	0.92	5.97	0.90	1.77	2.71	6.29	6.85
52	1.86	0.06	2.80	0.82	1.18	3.45	6.88	1.57	2.90	5.21	7.27	8.94
56	1.12	0.17	4.81	1.86	3.89	10.78	9.71	4.58	8.92	17.35	7.21	18.79
60	0.80	0.34	3.75	1.73	3.20	10.31	7.78	4.44	9.76	16.61	5.79	17.59
64	0.42	0.54	6.41	7.14	10.23	31.11	16.13	11.94	25.26	41.80	21.39	46.96
68	0.25	0.59	6.82	12.33	13.96	34.44	15.40	14.01	40.19	59.32	10.48	60.24

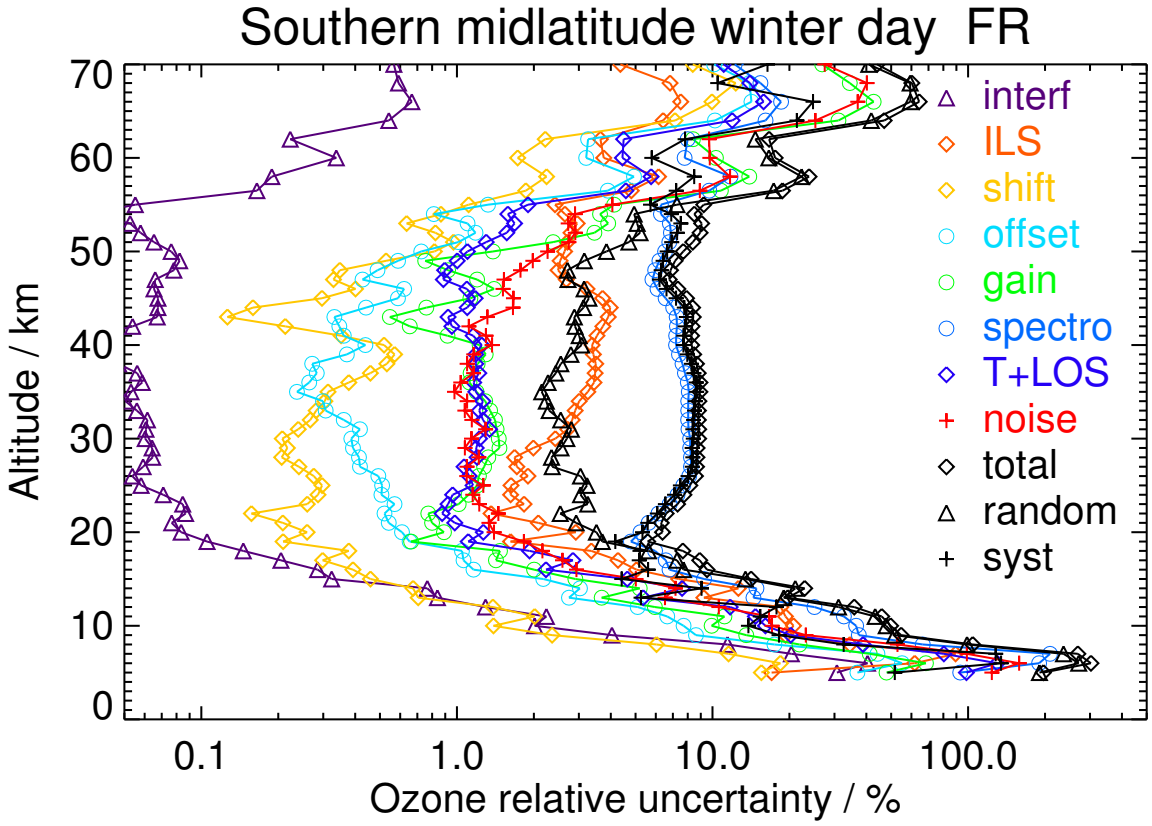

Figure S19. V8H_O3_61 Southern midlatitude winter day

Table S21. Ozone error budget for Southern midlatitude winter night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.00	>100	>100	90.17	>100	>100	>100	>100	>100	>100	>100	>100
9	0.19	3.82	38.00	2.06	12.18	19.90	48.37	21.81	23.16	70.22	20.69	73.20
12	0.43	1.24	21.51	1.83	6.20	8.32	30.18	12.02	10.15	41.04	7.03	41.64
15	0.83	0.42	10.85	0.47	2.69	4.77	13.17	4.92	4.86	17.81	7.25	19.23
18	1.91	0.17	4.48	0.33	1.22	1.96	6.09	2.01	2.33	7.46	4.06	8.49
21	3.78	0.10	2.26	0.26	0.71	1.27	4.65	1.03	1.38	4.03	3.95	5.64
24	5.04	0.07	1.63	0.25	0.51	1.15	6.61	0.95	1.16	3.02	6.41	7.08
27	6.00	0.07	1.20	0.27	0.44	1.51	7.05	1.00	1.06	2.54	7.03	7.47
30	6.83	0.05	2.15	0.20	0.33	1.46	7.06	1.08	1.03	2.25	7.34	7.68
33	7.36	0.05	2.78	0.23	0.26	1.32	7.53	1.11	0.97	2.07	8.02	8.28
36	7.43	0.05	3.35	0.36	0.22	1.16	7.95	1.12	0.93	2.09	8.58	8.83
39	6.73	0.04	3.54	0.55	0.26	1.17	7.42	1.11	1.04	2.41	8.12	8.47
42	5.44	0.04	3.76	0.25	0.26	0.78	7.43	1.01	1.13	2.67	8.08	8.51
45	4.05	0.05	3.37	0.16	0.43	0.78	6.27	1.10	1.71	2.85	6.89	7.46
48	3.03	0.10	2.50	0.31	0.54	1.06	5.96	0.87	1.70	2.67	6.31	6.85
52	2.13	0.06	2.69	0.60	1.10	2.83	6.40	1.32	2.22	4.40	6.72	8.03
56	1.60	0.23	3.59	1.26	3.19	6.41	9.16	3.14	6.02	11.89	7.39	14.00
60	1.44	0.27	3.02	0.96	2.08	6.53	6.12	3.12	5.26	10.47	4.74	11.49
64	1.25	0.41	4.17	1.38	4.02	10.33	5.98	4.69	7.24	14.87	5.59	15.89
68	1.02	0.23	3.72	2.25	4.67	12.34	6.85	6.30	9.19	17.96	6.45	19.09

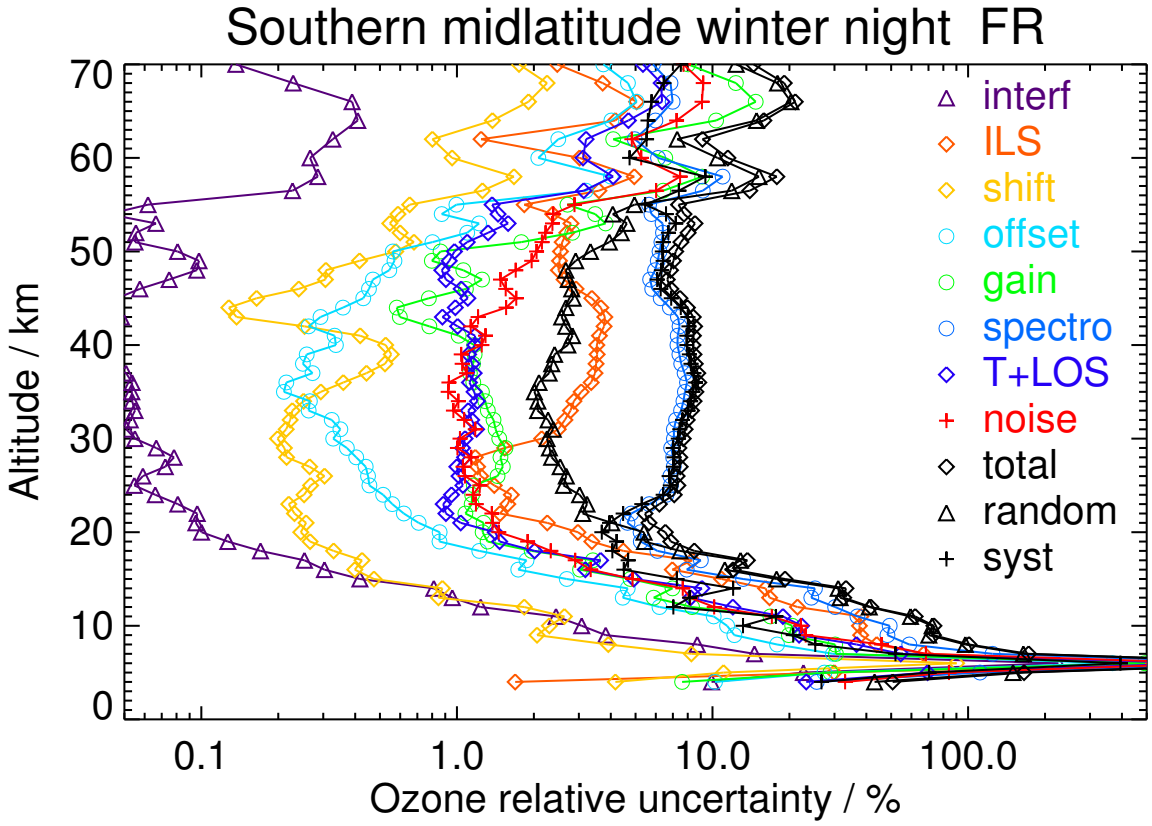

Figure S20. V8H_O3_61 Southern midlatitude winter night

Table S22. Ozone error budget for Southern midlatitude spring day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.06	44.81	43.47	18.91	42.70	39.50	>100	90.39	>100	>100	>100	>100
9	0.23	5.03	18.74	3.80	8.97	11.53	37.23	18.76	22.74	52.70	9.08	53.47
12	0.35	2.31	29.84	2.68	7.79	15.33	37.42	14.99	14.01	53.89	10.73	54.95
15	0.86	0.35	11.66	0.83	3.06	6.60	15.99	6.00	5.40	21.70	6.31	22.60
18	1.98	0.15	5.10	0.45	1.32	2.68	7.36	2.35	2.17	8.87	4.57	9.98
21	3.52	0.07	2.16	0.31	0.66	1.29	5.16	1.04	1.25	4.26	4.24	6.01
24	5.04	0.06	1.15	0.22	0.47	1.29	4.76	0.70	1.00	2.51	4.60	5.24
27	6.68	0.06	0.81	0.28	0.35	1.58	5.92	0.71	0.79	2.23	5.88	6.29
30	7.34	0.05	1.83	0.24	0.29	1.73	6.74	0.85	0.76	2.31	6.92	7.30
33	7.33	0.04	2.77	0.24	0.21	1.32	7.03	0.96	0.78	2.13	7.48	7.78
36	7.29	0.06	3.10	0.22	0.15	1.20	7.09	0.98	0.72	2.00	7.68	7.93
39	6.64	0.03	3.10	0.41	0.21	1.37	6.52	0.97	0.80	2.02	7.19	7.47
42	5.54	0.04	3.36	0.20	0.22	0.81	6.65	0.93	0.93	2.24	7.28	7.62
45	4.24	0.04	3.29	0.20	0.52	1.06	5.39	0.96	1.35	2.35	6.21	6.64
48	3.15	0.07	2.54	0.34	0.36	1.02	5.37	0.69	1.28	2.33	5.77	6.22
52	2.12	0.06	2.14	0.50	0.72	2.03	6.13	0.92	2.14	3.25	6.48	7.25
56	1.37	0.21	2.64	1.56	2.30	6.06	7.24	2.56	5.87	9.22	7.73	12.04
60	1.05	0.46	2.67	2.78	2.79	6.99	7.07	3.25	8.64	13.03	6.09	14.38
64	0.47	0.61	4.55	7.42	11.38	29.83	17.16	10.33	21.97	34.11	28.55	44.49
68	0.21	1.85	9.13	13.07	18.51	63.47	24.41	17.69	54.04	75.38	52.68	91.97

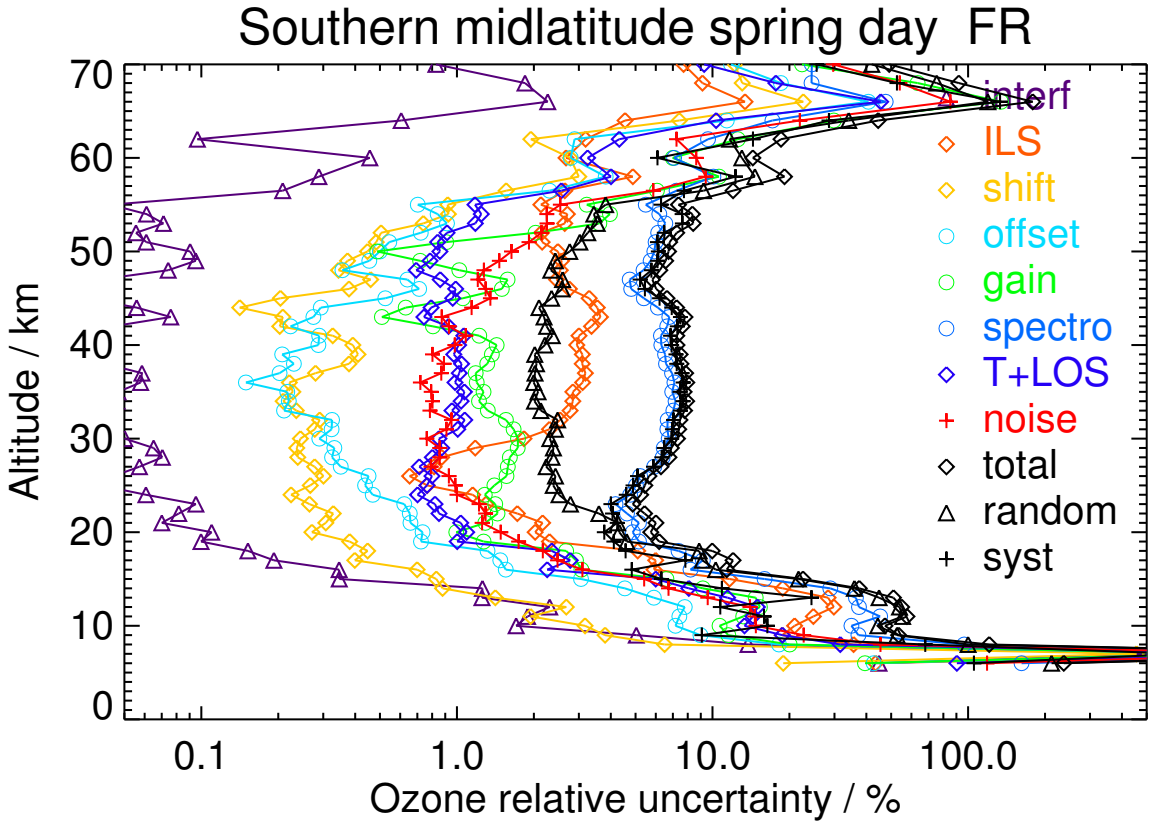

Figure S21. V8H_O3_61 Southern midlatitude spring day

Table S23. Ozone error budget for Southern midlatitude spring night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.00	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
9	0.28	4.51	19.07	2.11	8.53	10.31	30.37	17.20	19.83	45.21	11.62	46.68
12	0.45	1.72	31.55	1.80	7.89	11.46	29.35	13.71	11.45	34.95	33.97	48.74
15	0.99	0.46	11.09	0.65	3.52	3.68	13.27	5.44	4.89	17.73	8.06	19.47
18	2.35	0.15	6.67	0.19	1.48	2.34	6.91	2.43	1.93	7.00	7.78	10.47
21	3.87	0.07	2.41	0.23	0.55	0.92	5.26	0.97	1.14	3.11	5.23	6.08
24	5.59	0.07	1.22	0.13	0.41	1.02	5.29	0.59	0.91	1.99	5.28	5.64
27	7.40	0.06	1.01	0.25	0.39	1.66	6.37	0.69	0.74	1.67	6.55	6.76
30	7.92	0.05	2.13	0.18	0.25	1.59	7.60	0.87	0.74	1.62	7.97	8.14
33	7.69	0.04	2.98	0.21	0.21	1.23	7.87	1.03	0.82	1.91	8.40	8.61
36	7.58	0.05	3.21	0.27	0.16	1.20	7.71	1.07	0.75	1.94	8.32	8.54
39	7.14	0.03	3.15	0.44	0.22	1.45	6.95	1.02	0.83	2.19	7.59	7.90
42	5.95	0.03	3.34	0.25	0.26	1.02	6.84	1.06	1.03	2.23	7.51	7.83
45	4.41	0.05	4.00	0.15	0.41	0.83	6.09	1.01	1.44	2.21	7.23	7.56
48	3.36	0.07	2.46	0.41	0.43	1.58	4.90	0.75	1.24	1.85	5.62	5.92
52	2.36	0.06	2.02	0.42	0.69	1.65	5.71	0.83	1.93	2.79	6.06	6.67
56	1.71	0.15	1.33	0.63	1.63	3.49	5.72	1.71	4.28	6.14	5.76	8.42
60	1.52	0.10	2.73	1.08	2.21	5.64	5.55	2.78	4.70	8.49	5.83	10.29
64	1.18	0.28	3.92	1.85	4.34	9.36	7.21	4.05	6.55	11.99	9.63	15.38
68	1.16	0.27	4.75	3.76	5.69	13.62	8.48	6.66	8.84	19.75	7.69	21.19

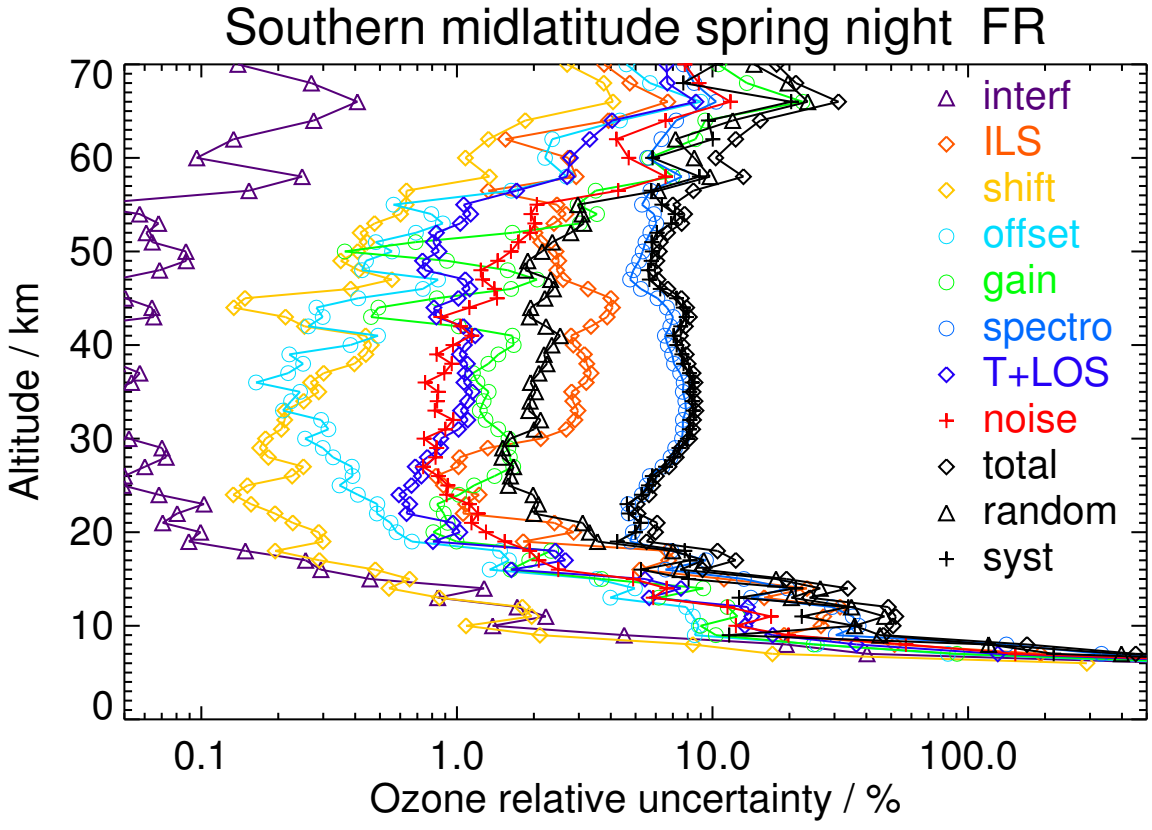

Figure S22. V8H_O3_61 Southern midlatitude spring night

Table S24. Ozone error budget for Southern midlatitude summer day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.01	>100	>100	52.11	>100	>100	>100	>100	>100	>100	>100	>100
9	0.22	3.86	26.75	3.30	10.55	16.35	43.32	21.27	23.41	59.04	22.61	63.22
12	0.34	1.92	28.18	2.66	6.42	14.82	22.79	13.50	13.90	34.76	27.43	44.28
15	0.70	0.42	9.27	1.09	2.98	5.52	11.32	5.12	5.98	15.90	7.99	17.80
18	1.50	0.16	5.80	0.51	1.36	3.03	7.10	2.33	2.80	7.68	7.04	10.42
21	2.99	0.09	1.45	0.34	0.58	0.96	4.07	0.84	1.49	3.11	3.65	4.80
24	4.64	0.06	0.75	0.25	0.45	1.31	4.39	0.63	1.06	1.87	4.45	4.83
27	6.31	0.08	0.67	0.21	0.30	1.46	5.71	0.66	0.86	1.41	5.88	6.04
30	7.21	0.04	1.94	0.39	0.34	1.74	5.90	0.83	0.79	1.54	6.38	6.57
33	7.63	0.03	2.57	0.33	0.25	1.37	6.41	0.88	0.70	1.43	7.00	7.14
36	7.46	0.06	3.04	0.18	0.15	1.22	6.76	0.94	0.68	1.42	7.47	7.60
39	6.45	0.02	2.83	0.38	0.27	1.78	5.85	0.94	0.76	1.49	6.70	6.87
42	5.18	0.09	3.18	0.41	0.34	0.55	6.38	0.86	0.78	1.51	7.11	7.27
45	3.73	0.05	3.61	0.50	0.74	1.46	4.46	1.07	1.31	2.15	5.84	6.22
48	2.91	0.10	2.79	0.39	0.32	1.03	4.44	0.60	1.22	1.65	5.29	5.54
52	2.06	0.09	1.79	0.93	0.79	2.99	6.44	0.97	2.29	3.62	6.94	7.83
56	1.45	0.18	2.85	3.46	2.08	7.92	5.80	2.74	5.95	9.64	8.41	12.80
60	1.04	0.27	3.61	2.06	3.49	12.04	6.70	3.77	7.04	10.67	13.00	16.82
64	0.75	0.60	3.22	4.82	10.09	31.24	16.11	9.68	15.12	23.77	33.59	41.15
68	0.35	0.77	7.22	18.04	11.67	26.60	29.74	7.85	37.97	48.65	35.25	60.08

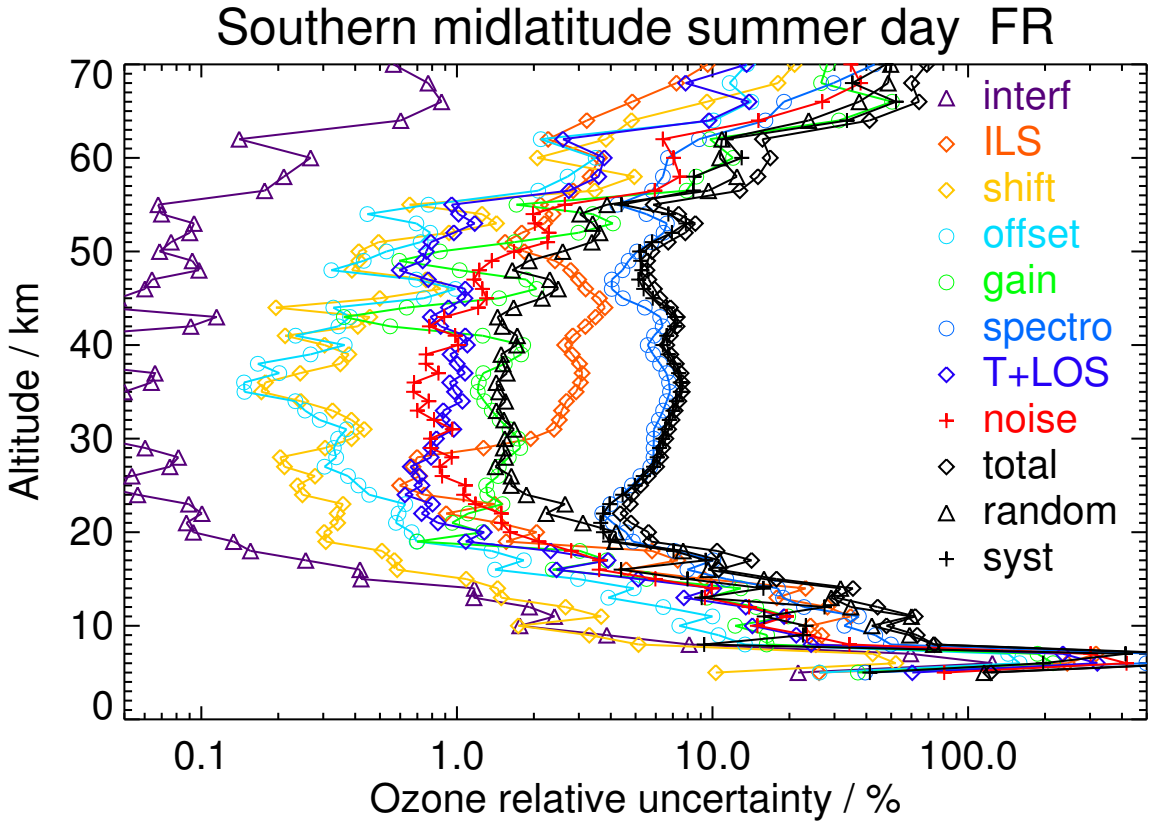

Figure S23. V8H_O3_61 Southern midlatitude summer day

Table S25. Ozone error budget for Southern midlatitude summer night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.10	10.74	20.31	4.31	13.21	18.95	49.37	25.46	39.22	70.52	27.04	75.53
9	0.20	4.27	33.65	4.26	10.88	13.55	53.25	19.49	21.86	71.06	10.65	71.86
12	0.27	1.60	34.05	3.22	7.99	11.07	37.02	14.03	13.75	54.91	10.04	55.82
15	0.54	0.55	14.60	1.15	3.61	6.10	14.02	5.96	6.54	21.72	8.26	23.24
18	1.41	0.18	5.11	0.52	1.34	1.91	6.88	1.98	2.88	7.26	6.22	9.56
21	2.94	0.10	1.87	0.36	0.69	1.03	4.49	0.85	1.61	3.46	4.09	5.35
24	4.52	0.05	0.77	0.20	0.47	1.21	4.89	0.64	1.15	1.98	4.91	5.29
27	6.45	0.08	0.41	0.23	0.37	1.61	5.78	0.69	0.89	1.54	5.94	6.14
30	7.44	0.04	2.06	0.39	0.38	1.77	6.27	0.85	0.81	1.58	6.77	6.95
33	7.78	0.04	2.60	0.29	0.25	1.37	6.68	0.92	0.71	1.46	7.26	7.40
36	7.55	0.07	2.97	0.16	0.16	1.34	6.82	0.99	0.70	1.41	7.53	7.66
39	6.40	0.03	2.81	0.32	0.25	1.79	6.06	0.98	0.77	1.52	6.88	7.04
42	4.92	0.10	3.18	0.40	0.33	0.74	6.18	0.91	0.84	1.52	6.96	7.12
45	3.66	0.05	3.62	0.41	0.70	1.26	4.56	1.01	1.29	2.16	5.85	6.23
48	2.97	0.11	2.71	0.41	0.33	1.29	4.18	0.56	1.19	1.61	5.09	5.34
52	2.21	0.07	1.87	0.65	0.66	2.74	5.80	0.80	2.13	3.05	6.43	7.12
56	1.79	0.24	2.42	1.36	1.63	4.48	7.66	1.75	5.16	7.10	8.27	10.90
60	1.48	0.14	1.78	2.63	2.39	10.74	5.39	3.48	4.90	8.09	11.44	14.02
64	1.22	0.37	3.62	6.20	6.11	22.81	7.94	7.27	10.45	17.34	23.11	28.89
68	1.19	0.27	3.78	6.60	3.98	11.11	11.15	7.11	8.62	18.08	10.92	21.12

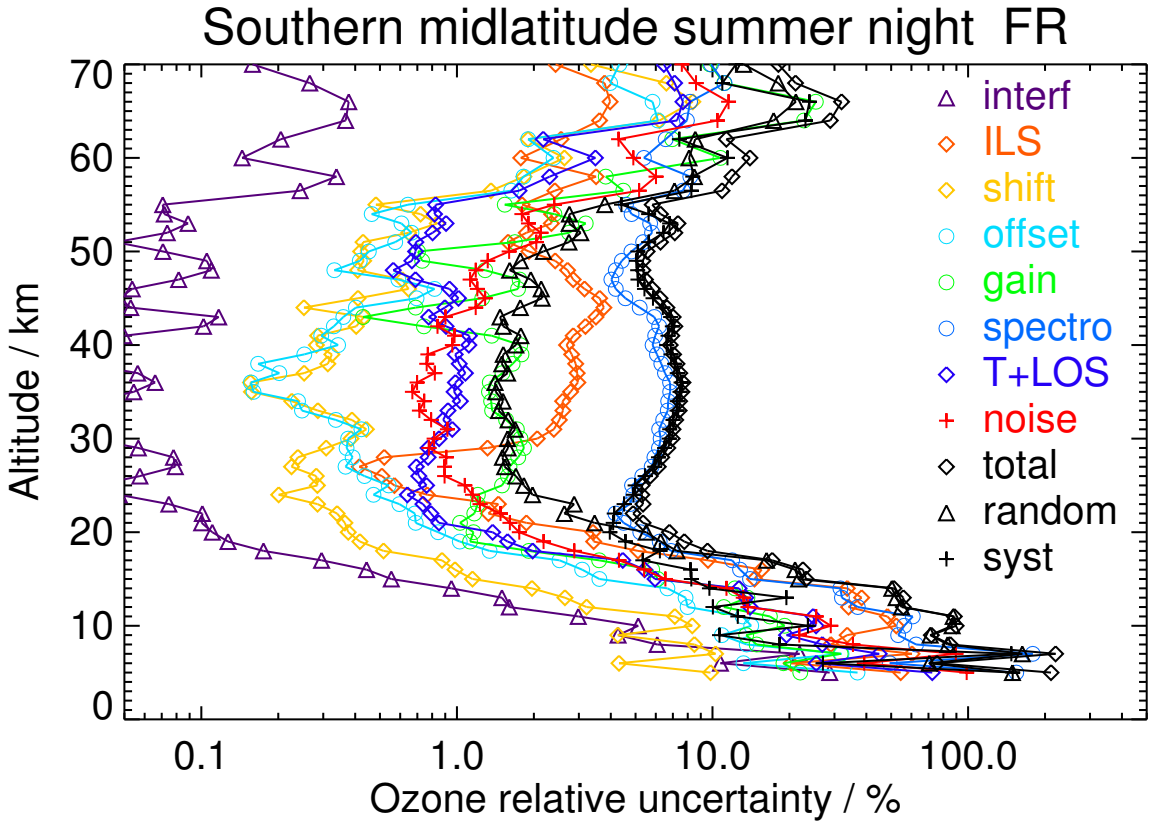

Figure S24. V8H_O3_61 Southern midlatitude summer night

Table S26. Ozone error budget for Southern midlatitude autumn day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.13	10.80	11.23	6.13	16.07	1.91	91.43	17.60	41.69	49.60	92.13	>100
9	0.06	13.91	74.35	15.66	32.33	31.98	>100	53.50	71.05	>100	>100	>100
12	0.21	2.53	30.07	3.48	9.92	12.82	49.80	15.80	17.60	58.18	28.98	65.00
15	0.63	0.60	6.99	0.67	2.39	3.16	12.35	4.90	5.53	15.58	5.46	16.51
18	1.64	0.16	3.31	0.35	1.10	1.51	5.79	1.74	2.25	6.27	4.12	7.50
21	2.97	0.11	0.83	0.17	0.62	0.67	4.52	0.81	1.52	2.96	4.02	4.99
24	4.69	0.05	0.83	0.18	0.52	1.21	5.36	0.81	1.07	2.21	5.30	5.74
27	5.92	0.07	0.96	0.11	0.39	1.45	7.13	0.87	1.00	1.87	7.23	7.47
30	6.45	0.04	2.43	0.21	0.37	1.37	7.29	1.06	1.09	2.07	7.69	7.96
33	7.09	0.04	2.62	0.23	0.28	1.29	7.72	1.06	0.87	1.71	8.19	8.37
36	7.49	0.04	2.94	0.32	0.23	1.27	7.39	1.07	0.92	1.72	8.00	8.18
39	7.22	0.03	2.96	0.30	0.29	1.31	7.22	1.12	1.05	1.86	7.86	8.07
42	6.14	0.06	3.67	0.17	0.30	0.67	7.19	0.86	1.13	1.73	8.05	8.23
45	4.63	0.04	3.18	0.38	0.66	1.38	5.88	0.88	1.15	2.05	6.71	7.02
48	3.39	0.08	2.74	0.45	0.48	0.67	6.49	0.88	1.62	2.38	6.95	7.35
52	2.09	0.03	2.74	0.69	0.73	3.73	6.34	1.39	1.94	3.18	7.63	8.27
56	1.44	0.11	4.32	1.97	3.50	11.28	8.87	4.32	7.80	13.28	11.99	17.89
60	0.79	0.08	3.82	2.23	2.69	10.38	8.92	4.17	7.52	12.47	11.51	16.97
64	0.52	0.36	5.49	4.00	10.56	32.46	14.17	10.66	21.44	42.88	12.11	44.56
68	0.31	0.42	6.13	8.94	12.34	31.49	21.55	12.69	24.96	36.07	34.76	50.10

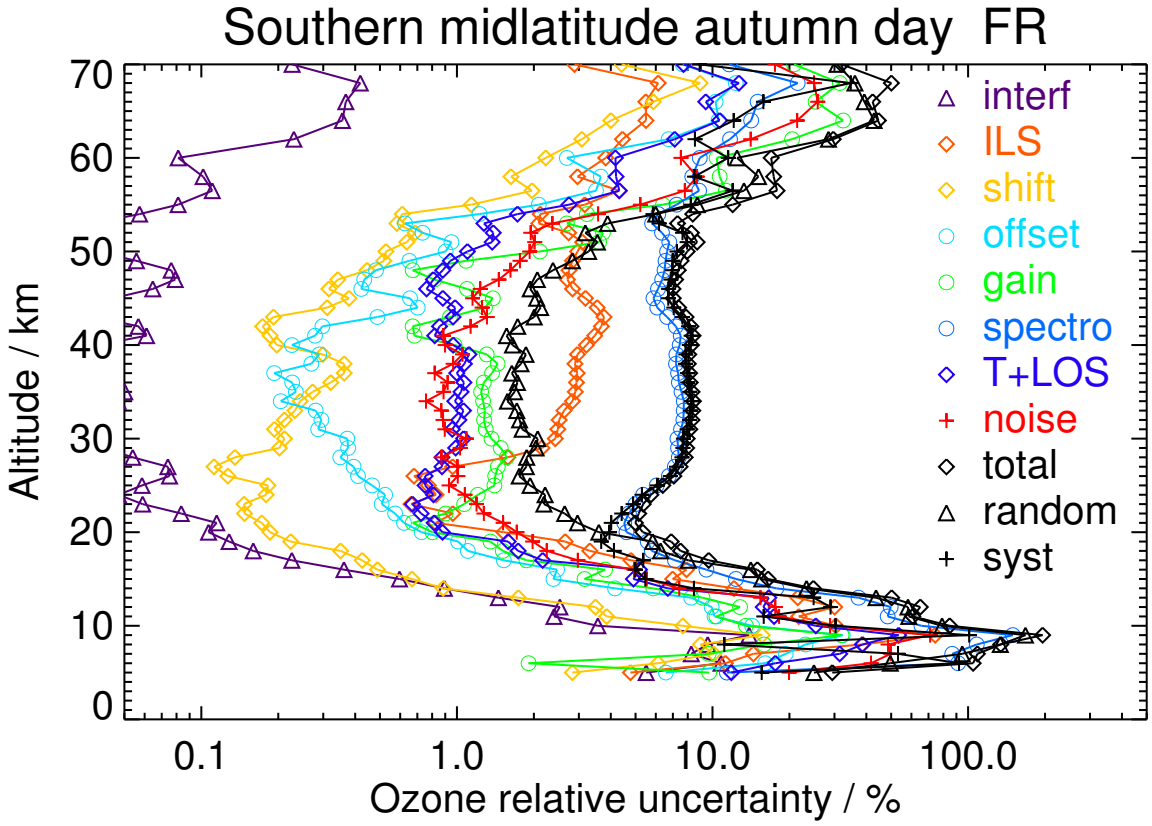

Figure S25. V8H_O3_61 Southern midlatitude autumn day

Table S27. Ozone error budget for Southern midlatitude autumn night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.08	18.35	46.49	15.21	41.00	37.24	>100	65.71	86.29	>100	>100	>100
9	0.07	13.10	57.22	18.46	27.57	19.15	>100	50.33	63.54	>100	26.97	>100
12	0.16	3.89	61.10	4.92	15.99	23.75	85.87	24.66	25.95	97.15	61.72	>100
15	0.43	0.91	32.66	1.19	6.92	12.35	31.35	11.64	9.46	39.32	30.51	49.77
18	1.34	0.25	5.47	0.49	2.21	2.28	12.21	2.85	2.79	10.64	9.60	14.33
21	2.86	0.12	1.72	0.21	0.74	0.75	4.35	0.98	1.52	3.69	3.57	5.13
24	4.69	0.05	0.58	0.25	0.63	1.37	4.38	0.85	1.04	2.13	4.38	4.87
27	6.17	0.07	0.60	0.19	0.49	1.63	6.00	0.89	0.96	1.85	6.13	6.40
30	6.67	0.04	2.22	0.29	0.43	1.43	6.63	1.07	1.05	2.08	7.01	7.31
33	7.20	0.04	2.48	0.24	0.30	1.29	7.17	1.07	0.85	1.72	7.64	7.83
36	7.52	0.05	2.78	0.30	0.23	1.28	6.86	1.06	0.92	1.66	7.47	7.65
39	7.22	0.03	2.75	0.30	0.35	1.47	6.48	1.11	1.05	1.75	7.16	7.37
42	6.09	0.07	3.64	0.20	0.26	0.59	7.05	0.78	1.04	1.57	7.92	8.07
45	4.67	0.05	3.40	0.43	0.72	1.44	4.94	0.89	1.13	2.07	6.04	6.39
48	3.47	0.09	2.54	0.41	0.50	0.58	6.40	0.85	1.57	2.29	6.79	7.17
52	2.34	0.03	2.58	0.53	0.75	2.81	6.42	1.13	1.73	2.76	7.30	7.81
56	1.74	0.10	3.39	1.02	2.73	5.93	8.58	2.62	5.53	9.58	8.63	12.90
60	1.35	0.04	2.29	1.33	1.65	5.52	5.74	2.74	4.51	7.22	7.00	10.05
64	1.29	0.16	4.16	2.39	5.05	14.42	7.34	4.91	7.67	18.07	8.16	19.83
68	1.05	0.09	3.12	2.34	5.40	12.33	8.75	7.25	8.39	14.58	13.53	19.90

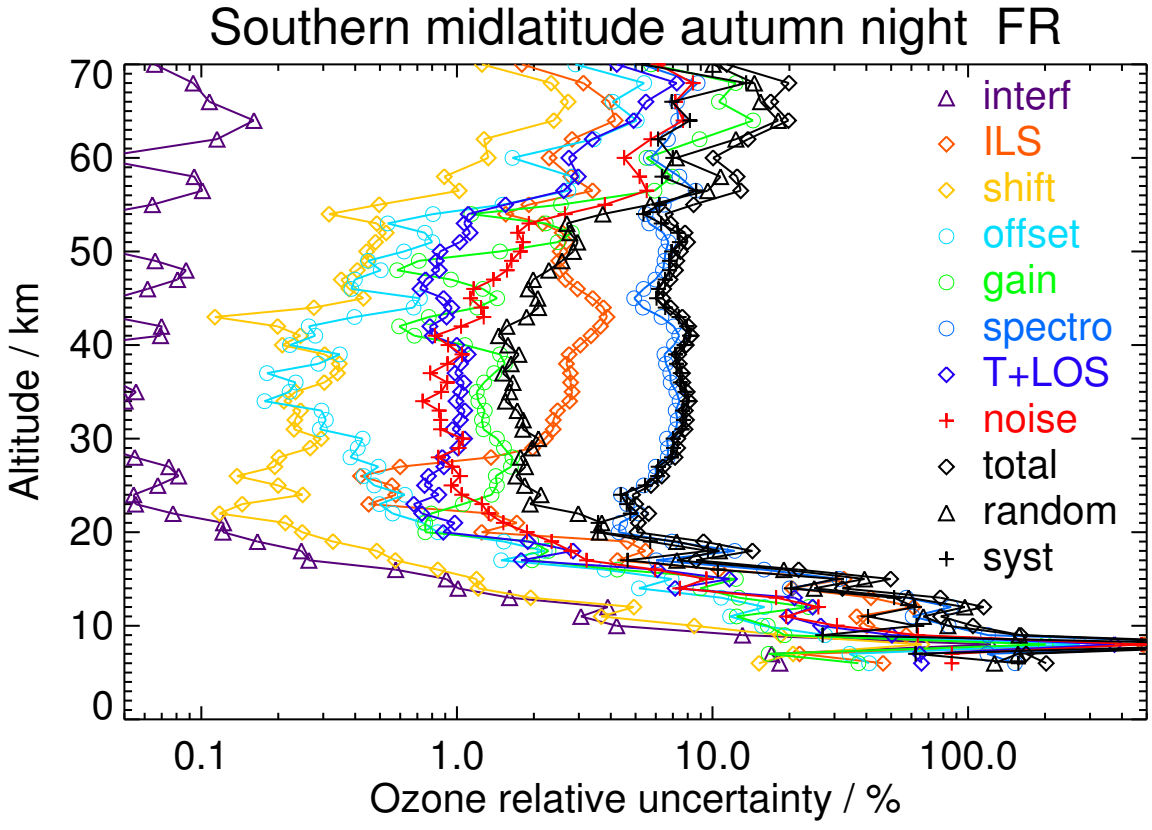

Figure S26. V8H_O3_61 Southern midlatitude autumn night

Table S28. Ozone error budget for Southern polar winter day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.00	>100	>100	66.50	>100	>100	>100	>100	>100	>100	>100	>100
9	0.04	9.08	59.48	12.73	38.87	51.44	>100	>100	>100	>100	>100	>100
12	0.58	0.73	12.70	1.34	3.71	8.30	41.68	12.62	7.67	31.14	35.10	46.92
15	1.23	0.23	3.78	0.57	1.48	2.72	8.84	3.67	3.51	10.39	4.51	11.32
18	1.75	0.18	2.44	0.42	1.06	1.86	7.58	2.43	2.83	7.15	5.57	9.06
21	2.26	0.15	2.41	0.35	0.87	0.97	9.46	1.91	2.48	5.60	8.70	10.34
24	3.16	0.07	1.40	0.59	0.77	1.18	7.24	1.51	1.95	4.57	6.47	7.93
27	4.12	0.07	1.57	0.58	0.56	1.47	7.57	1.36	1.59	2.71	7.72	8.18
30	4.54	0.05	2.76	0.28	0.52	1.63	7.03	1.46	1.56	2.63	7.60	8.04
33	4.61	0.04	3.53	0.28	0.39	1.42	7.35	1.34	1.49	2.79	8.05	8.52
36	4.41	0.05	3.77	0.50	0.43	1.10	6.84	1.13	1.39	2.61	7.68	8.11
39	3.80	0.03	3.46	0.78	0.33	1.00	5.29	1.00	1.41	2.39	6.24	6.68
42	3.24	0.04	3.20	0.26	0.26	0.52	5.47	0.84	1.37	1.97	6.27	6.57
45	2.61	0.05	3.02	0.15	0.42	0.76	4.76	0.99	1.97	2.71	5.49	6.12
48	1.94	0.11	2.19	0.32	0.55	0.89	5.16	0.89	2.09	2.77	5.49	6.15
52	1.35	0.05	2.53	1.34	0.99	3.68	5.87	1.34	3.60	5.25	6.66	8.48
56	0.78	0.28	2.74	2.46	3.79	13.70	6.52	4.98	11.25	16.98	11.01	20.23
60	0.60	0.19	3.29	2.68	3.73	11.18	5.43	4.21	13.25	18.86	4.91	19.49
64	0.26	0.76	9.40	11.93	12.66	34.72	19.02	12.24	34.54	51.06	26.35	57.46
68	0.16	0.99	13.28	15.05	17.00	36.65	19.13	13.70	53.16	72.26	13.92	73.59

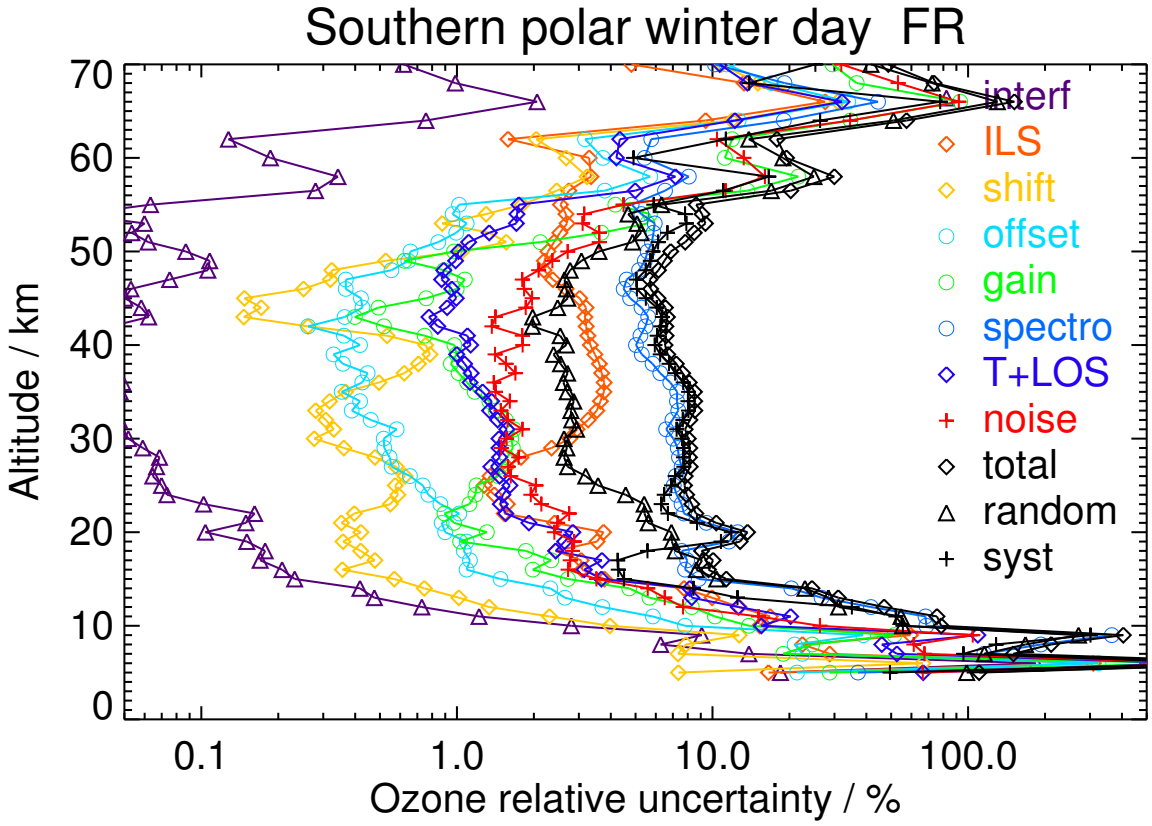

Figure S27. V8H_O3_61 Southern polar winter day

Table S29. Ozone error budget for Southern polar winter night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.07	9.65	29.03	4.31	18.94	27.38	>100	37.24	47.58	>100	19.62	>100
9	0.11	4.87	32.62	4.25	14.45	23.38	72.43	32.84	33.74	94.68	18.97	96.56
12	0.50	0.65	8.50	1.02	3.28	5.86	27.28	8.27	7.46	22.72	21.70	31.42
15	1.48	0.19	3.31	0.35	1.20	1.96	7.04	2.53	2.74	8.17	3.62	8.94
18	2.47	0.13	1.66	0.27	0.82	1.34	5.40	1.80	2.02	5.06	4.02	6.46
21	3.13	0.11	2.34	0.26	0.73	0.82	8.88	1.75	1.85	4.35	8.55	9.59
24	3.53	0.07	2.07	0.41	0.62	0.96	8.82	1.57	1.75	3.87	8.61	9.44
27	4.09	0.06	2.26	0.50	0.53	1.16	9.20	1.57	1.65	3.04	9.35	9.84
30	4.62	0.05	3.19	0.23	0.51	1.39	8.38	1.55	1.59	2.84	8.91	9.35
33	4.89	0.04	4.00	0.31	0.42	1.39	8.50	1.42	1.49	2.82	9.32	9.73
36	4.57	0.04	4.30	0.56	0.32	1.11	8.16	1.26	1.44	2.82	9.08	9.51
39	3.89	0.03	3.74	0.84	0.37	0.95	6.47	1.19	1.56	2.98	7.25	7.84
42	3.03	0.04	3.73	0.32	0.44	0.40	6.67	1.12	1.67	2.86	7.40	7.93
45	2.33	0.06	3.17	0.27	0.56	0.97	5.39	1.25	2.32	3.68	5.81	6.88
48	1.81	0.10	2.53	0.46	0.69	1.20	5.47	0.93	2.32	3.25	5.84	6.69
52	1.37	0.08	2.29	1.01	1.10	3.00	4.76	1.24	2.97	4.83	5.12	7.04
56	1.21	0.17	2.50	1.20	2.16	6.19	4.43	2.48	5.75	9.34	4.71	10.46
60	1.24	0.12	5.13	1.05	2.42	7.15	3.68	3.53	5.24	9.88	6.34	11.74
64	1.52	0.22	5.71	1.40	2.92	7.56	4.54	3.34	5.63	10.59	7.20	12.80
68	1.49	0.13	5.67	1.76	3.31	8.87	4.42	5.27	6.54	13.87	4.74	14.66

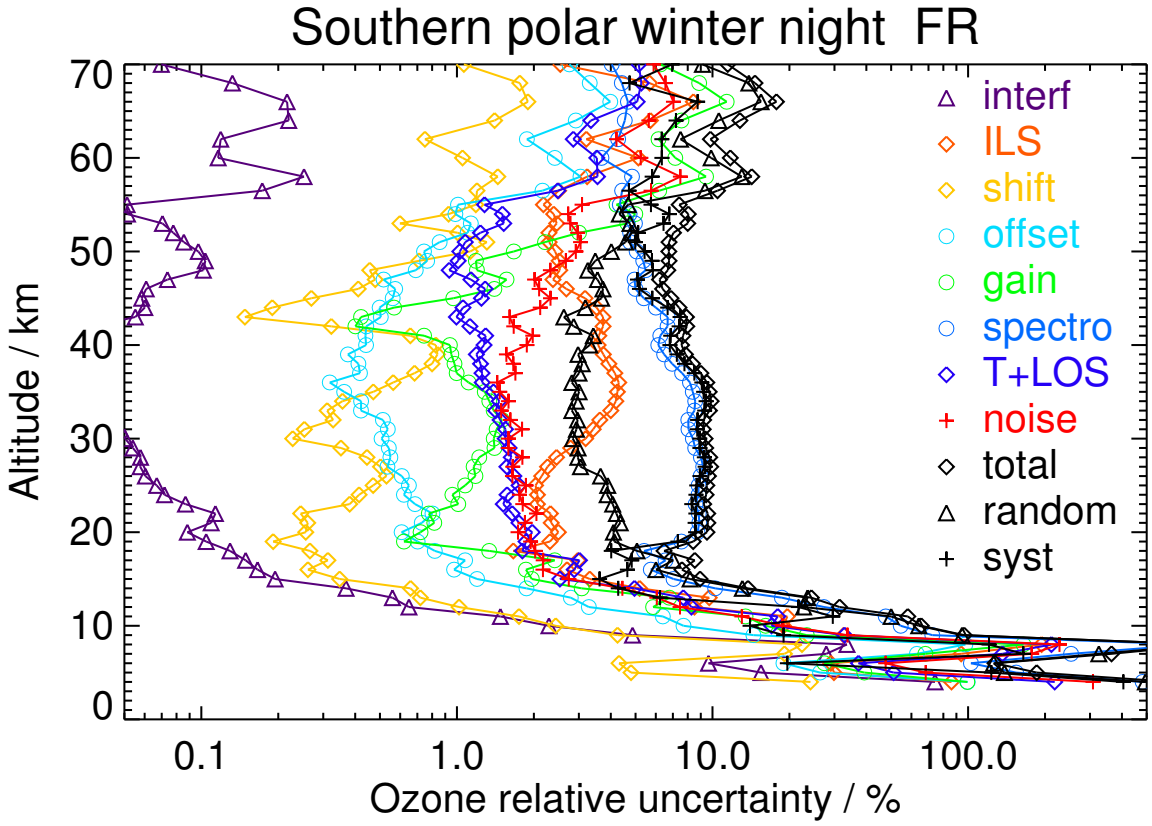

Figure S28. V8H_O3_61 Southern polar winter night

Table S30. Ozone error budget for Southern polar spring day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.13	11.24	21.74	2.82	14.58	11.82	38.64	36.09	44.93	67.40	35.09	75.99
9	0.14	6.29	42.56	5.97	13.08	28.92	54.50	35.01	35.75	89.26	20.00	91.47
12	0.43	1.55	39.86	1.83	4.97	18.77	41.58	20.62	12.35	59.89	26.28	65.41
15	-0.16	1.94	98.40	6.53	15.39	53.26	>100	40.11	32.18	82.68	>100	>100
18	0.37	1.01	38.42	4.81	4.27	11.05	33.90	11.44	12.88	34.97	43.17	55.56
21	2.06	0.10	3.69	1.17	1.18	2.32	5.91	2.23	2.33	6.16	5.40	8.19
24	3.60	0.07	1.62	0.33	0.49	1.50	4.76	0.85	1.40	2.73	4.81	5.53
27	4.50	0.07	1.10	0.25	0.33	1.70	5.02	0.70	1.03	2.60	4.93	5.57
30	5.92	0.06	2.19	0.26	0.26	1.61	5.35	0.63	0.82	2.50	5.57	6.10
33	5.80	0.06	2.94	0.25	0.16	1.24	5.79	0.81	0.83	1.86	6.46	6.72
36	5.37	0.08	2.89	0.26	0.14	1.17	5.67	0.84	0.81	1.78	6.33	6.58
39	4.68	0.05	2.90	0.35	0.17	1.17	5.07	0.82	0.94	1.66	5.86	6.09
42	4.18	0.06	2.74	0.20	0.22	0.82	4.56	0.74	1.12	1.68	5.30	5.56
45	3.57	0.07	3.02	0.32	0.26	0.48	4.56	0.63	1.19	1.71	5.40	5.67
48	2.78	0.06	2.22	0.44	0.26	0.93	4.66	0.55	1.26	2.43	4.87	5.45
52	1.93	0.12	2.39	0.68	0.54	1.24	5.42	0.77	2.46	3.48	5.65	6.64
56	1.24	0.22	2.08	1.23	1.37	3.28	6.93	1.60	4.91	7.16	6.48	9.66
60	1.02	0.51	7.98	4.94	3.97	8.59	12.60	3.69	12.62	18.51	12.92	22.57
64	0.54	0.70	7.83	6.16	4.59	10.05	11.48	4.07	15.09	22.05	10.56	24.45
68	0.26	3.34	10.34	15.08	22.64	67.77	21.59	21.19	56.39	69.33	68.84	97.70

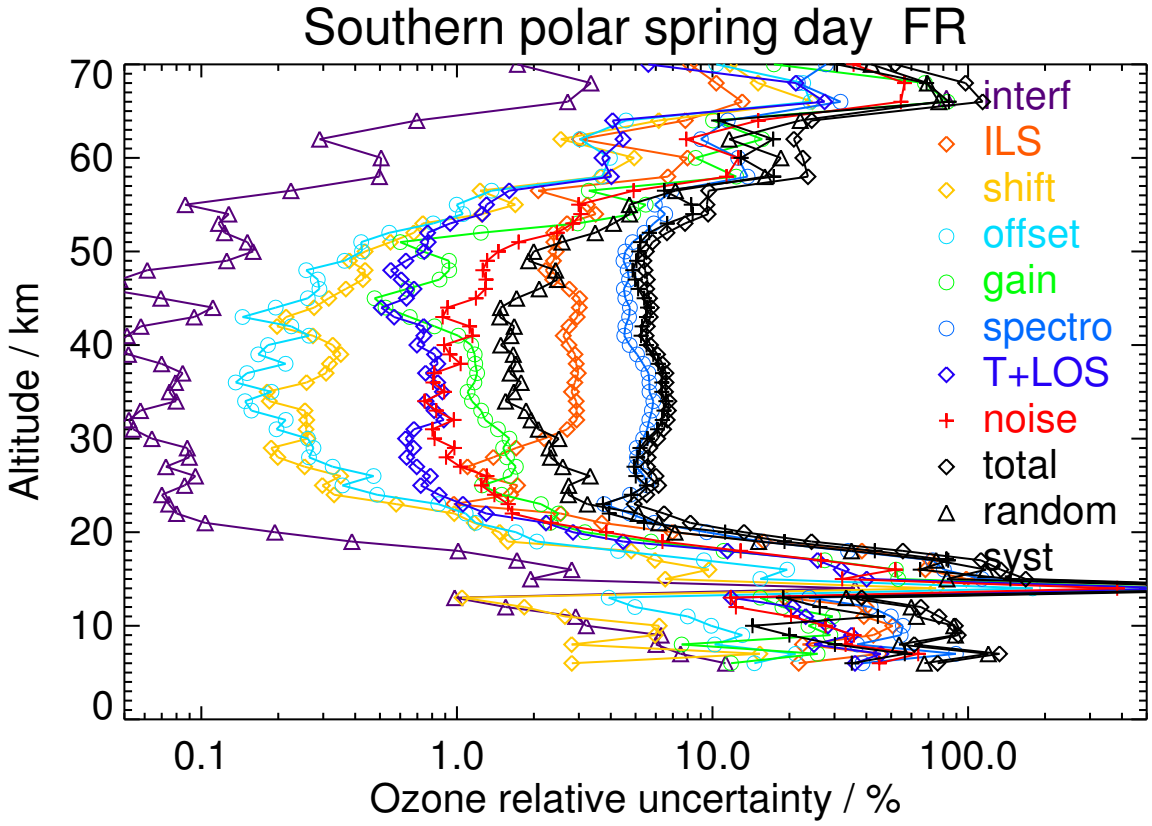

Figure S29. V8H_O3_61 Southern polar spring day

Table S31. Ozone error budget for Southern polar spring night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.15	7.48	16.37	4.63	11.17	9.84	32.10	24.69	33.67	51.00	27.21	57.80
9	0.16	6.09	21.50	4.68	13.00	21.07	36.70	26.44	32.13	61.84	19.72	64.91
12	0.54	1.34	30.09	1.48	4.71	12.79	37.78	15.46	10.40	39.56	36.12	53.57
15	0.34	1.08	30.84	3.17	8.43	13.28	43.47	14.63	14.00	57.36	14.81	59.24
18	0.94	0.37	12.74	1.75	3.12	5.87	13.41	4.77	4.97	17.92	10.77	20.90
21	2.86	0.12	4.52	1.02	0.95	1.74	6.40	1.64	1.64	6.80	5.05	8.47
24	4.82	0.07	1.38	0.31	0.45	1.30	5.74	0.73	1.08	2.54	5.66	6.21
27	5.43	0.10	1.42	0.18	0.33	1.79	7.01	0.79	0.93	2.94	6.88	7.48
30	6.19	0.08	2.33	0.19	0.23	1.50	6.61	0.76	0.83	2.83	6.69	7.26
33	6.39	0.08	2.97	0.21	0.18	1.24	6.65	0.84	0.81	2.31	7.13	7.49
36	6.04	0.09	3.13	0.28	0.17	1.29	6.61	0.91	0.78	2.48	7.11	7.53
39	5.29	0.07	3.15	0.37	0.18	1.12	6.25	0.90	0.90	2.93	6.59	7.21
42	4.41	0.07	3.28	0.21	0.25	0.82	5.92	0.90	1.16	2.98	6.32	6.98
45	3.62	0.06	3.10	0.28	0.32	0.42	5.32	0.73	1.32	2.88	5.68	6.37
48	2.94	0.11	2.12	0.42	0.53	1.64	4.93	0.65	1.27	3.02	4.99	5.83
52	2.20	0.15	2.59	0.51	0.80	2.24	5.77	0.88	2.15	3.84	6.05	7.17
56	1.63	0.42	2.92	0.71	1.96	4.41	7.14	1.87	4.64	7.58	7.14	10.42
60	1.51	0.31	5.32	1.95	2.45	5.95	8.54	3.30	6.40	11.28	8.42	14.08
64	1.06	0.85	4.68	3.02	4.08	11.28	7.62	5.75	7.75	15.35	9.54	18.08
68	1.14	0.89	6.60	4.74	6.99	17.88	9.96	7.33	10.61	20.11	17.21	26.47

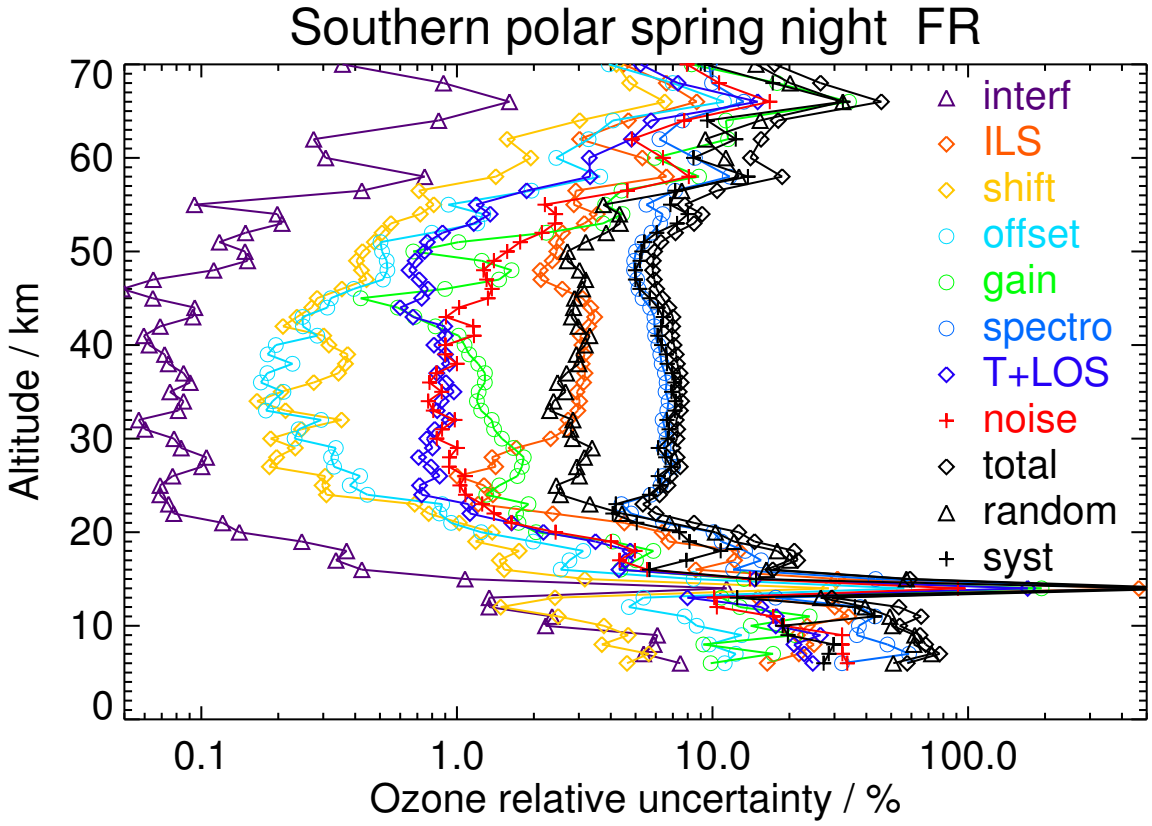

Figure S30. V8H_O3_61 Southern polar spring night

Table S32. Ozone error budget for Southern polar summer day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.05	23.92	47.33	16.18	32.41	34.00	>100	67.09	79.30	>100	70.44	>100
9	0.32	1.98	15.38	1.89	6.89	7.11	34.68	14.00	15.58	33.17	29.72	44.54
12	0.41	1.45	21.37	1.91	5.14	9.30	20.84	9.72	10.97	27.39	21.78	34.99
15	0.89	0.41	6.63	0.69	2.33	3.18	10.02	4.46	5.11	11.15	9.07	14.37
18	1.92	0.16	5.07	0.49	1.06	2.17	6.30	2.37	2.45	5.98	6.88	9.12
21	2.88	0.10	2.01	0.54	0.59	1.51	5.78	1.04	1.58	3.65	5.54	6.63
24	2.90	0.07	2.64	0.30	0.53	1.26	7.02	0.85	1.53	3.22	7.13	7.83
27	3.56	0.10	1.25	0.23	0.39	1.56	5.67	0.72	1.23	2.34	5.74	6.20
30	4.47	0.04	2.35	0.36	0.32	1.61	5.50	0.76	0.98	1.77	6.08	6.34
33	5.24	0.06	2.56	0.39	0.25	1.36	5.74	0.74	0.86	1.46	6.38	6.55
36	5.66	0.07	3.12	0.19	0.14	1.07	6.21	0.80	0.75	1.31	7.00	7.12
39	5.45	0.03	2.83	0.39	0.22	1.65	5.37	0.80	0.78	1.37	6.26	6.41
42	4.71	0.06	3.03	0.32	0.25	0.88	5.54	0.89	0.95	1.50	6.35	6.52
45	3.58	0.07	3.56	0.30	0.49	1.05	4.44	0.93	1.30	1.95	5.71	6.03
48	2.75	0.10	2.83	0.55	0.40	1.32	3.88	0.59	1.20	1.83	4.87	5.20
52	1.88	0.10	1.79	0.76	0.75	2.34	6.05	0.91	2.82	3.68	6.46	7.43
56	1.42	0.23	2.17	3.54	1.78	8.24	5.47	2.63	5.54	8.60	9.05	12.48
60	0.95	0.45	2.92	4.18	4.27	7.74	4.46	3.51	9.73	14.19	5.48	15.21
64	0.81	0.63	4.41	3.77	7.14	17.50	12.63	5.26	11.03	17.15	20.15	26.46
68	0.57	0.73	4.81	9.99	9.73	16.70	16.55	5.70	24.85	31.34	20.95	37.70

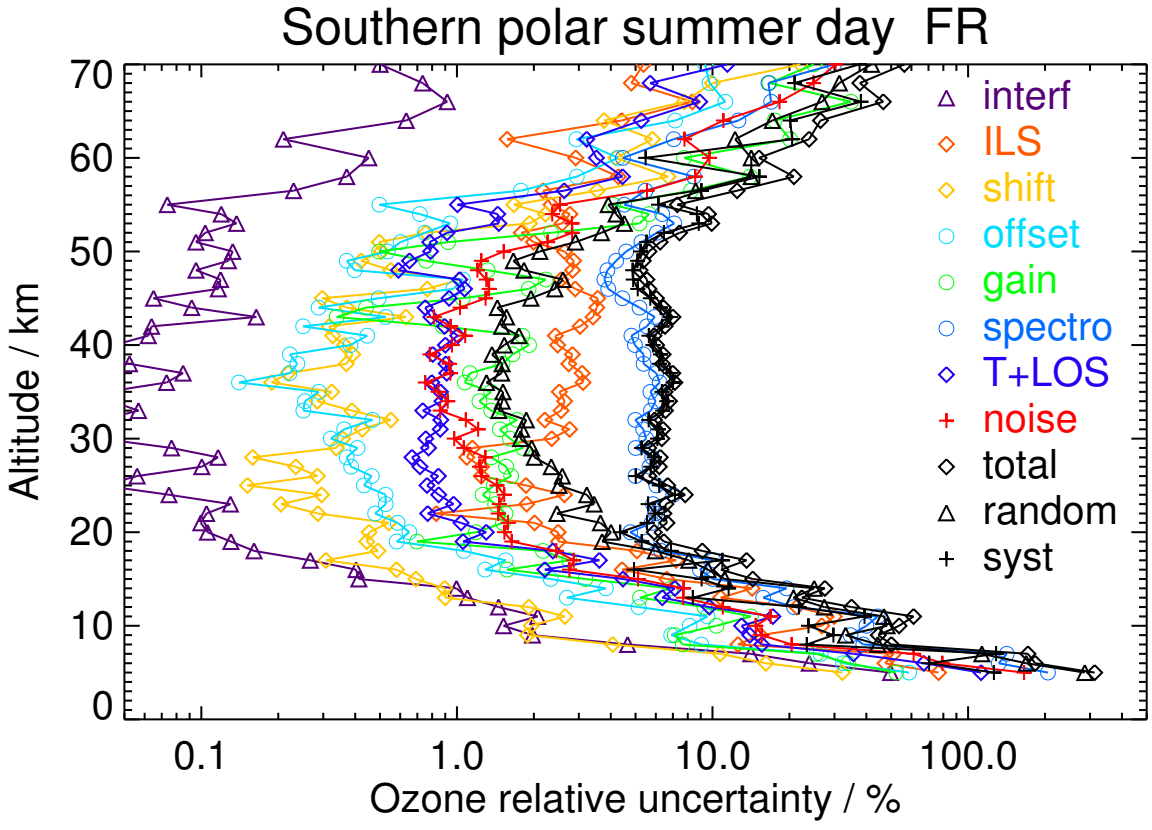

Figure S31. V8H_O3_61 Southern polar summer day

Table S33. Ozone error budget for Southern polar summer night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.06	35.58	>100	6.77	50.36	44.53	>100	77.24	94.83	>100	32.72	>100
9	0.15	7.07	30.97	5.69	12.02	10.15	59.95	21.25	29.06	74.42	25.31	78.61
12	0.35	1.29	13.16	1.64	3.92	6.01	18.70	8.76	10.13	27.15	4.56	27.53
15	0.81	0.64	6.65	0.61	1.63	2.98	8.52	2.64	4.02	10.17	6.99	12.34
18	1.91	0.16	2.40	0.45	0.82	1.25	5.01	1.16	1.98	4.48	4.30	6.21
21	3.05	0.09	1.14	0.27	0.52	1.25	5.66	0.74	1.44	2.68	5.53	6.15
24	3.23	0.05	1.51	0.13	0.47	1.46	6.50	0.77	1.38	2.84	6.43	7.03
27	4.08	0.10	0.89	0.17	0.41	1.44	6.11	0.72	1.25	2.39	6.07	6.52
30	4.95	0.03	2.30	0.34	0.41	1.62	5.80	0.89	1.13	2.03	6.31	6.63
33	5.63	0.04	2.54	0.28	0.29	1.31	6.42	0.90	0.92	1.58	6.98	7.16
36	5.99	0.06	2.94	0.23	0.20	1.26	6.38	0.93	0.91	1.48	7.11	7.26
39	5.75	0.03	2.69	0.35	0.31	1.70	5.73	0.93	0.92	1.50	6.53	6.70
42	4.75	0.09	3.35	0.29	0.30	0.67	6.38	0.79	0.86	1.41	7.21	7.34
45	3.65	0.05	3.26	0.34	0.70	1.22	4.43	0.97	1.36	2.01	5.58	5.93
48	2.87	0.09	2.69	0.35	0.33	0.97	4.66	0.61	1.29	1.63	5.43	5.67
52	2.03	0.07	1.84	0.56	0.62	2.08	5.86	0.79	2.10	2.73	6.35	6.91
56	1.75	0.14	0.94	0.96	1.36	3.48	5.35	1.48	4.42	5.65	5.85	8.14
60	1.12	0.21	2.28	3.75	3.73	14.61	4.97	4.33	6.16	10.58	14.71	18.12
64	1.54	0.30	3.46	4.80	5.22	17.91	6.66	5.33	7.81	13.27	18.46	22.73
68	0.76	0.33	4.12	10.90	6.91	15.65	17.14	13.19	14.46	28.22	17.58	33.25

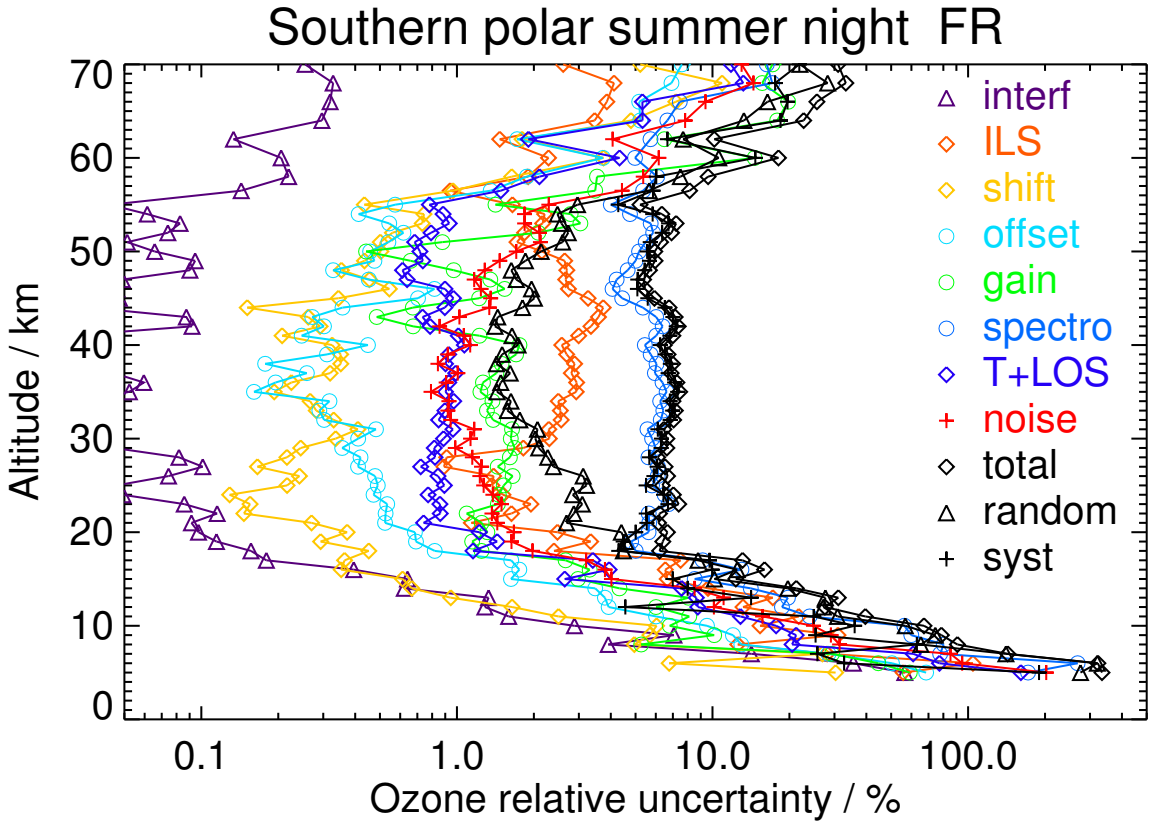

Figure S32. V8H_O3_61 Southern polar summer night

Table S34. Ozone error budget for Southern polar autumn day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.06	29.57	36.82	10.53	38.97	29.10	>100	63.86	98.51	>100	37.17	>100
9	0.16	5.70	12.16	5.59	11.63	9.32	82.32	20.58	30.95	68.15	62.83	92.69
12	0.35	1.43	12.39	1.50	4.33	6.32	29.55	10.14	11.54	31.12	18.90	36.41
15	1.10	0.30	3.84	0.37	1.22	2.59	8.94	3.27	3.32	8.10	7.69	11.17
18	2.31	0.11	3.76	0.26	0.65	0.97	6.27	1.55	1.63	4.12	6.55	7.74
21	2.83	0.10	2.02	0.14	0.65	0.82	6.98	1.08	1.52	2.95	6.97	7.57
24	3.27	0.05	2.03	0.19	0.47	1.17	7.81	1.10	1.33	2.76	7.89	8.35
27	3.49	0.07	1.84	0.17	0.47	1.33	8.53	1.19	1.46	2.87	8.57	9.04
30	3.80	0.05	3.08	0.18	0.44	1.14	7.84	1.32	1.63	2.71	8.34	8.77
33	4.24	0.04	3.06	0.28	0.37	1.23	8.03	1.17	1.36	2.65	8.47	8.87
36	4.87	0.05	3.30	0.41	0.34	1.04	7.17	1.03	1.41	2.50	7.77	8.17
39	5.11	0.02	3.32	0.45	0.45	1.12	6.67	1.08	1.53	2.59	7.34	7.79
42	4.60	0.06	3.75	0.13	0.35	0.53	6.78	0.79	1.38	2.17	7.63	7.94
45	3.68	0.04	3.14	0.28	0.71	1.09	5.39	0.93	1.45	2.28	6.20	6.61
48	2.89	0.06	2.36	0.55	0.55	0.83	6.13	0.88	1.84	2.46	6.52	6.97
52	1.70	0.07	2.32	0.66	1.05	2.26	7.17	1.39	2.32	3.88	7.46	8.41
56	0.89	0.13	4.82	2.13	4.85	11.54	6.86	4.44	8.56	16.76	6.61	18.01
60	0.60	0.15	2.94	1.95	3.24	10.81	6.36	3.84	8.85	13.78	9.14	16.54
64	0.44	0.70	4.98	5.62	13.26	36.70	18.51	10.96	24.66	42.46	29.11	51.48
68	0.22	0.86	7.87	14.76	18.35	47.19	21.10	16.79	40.16	56.39	44.76	72.00

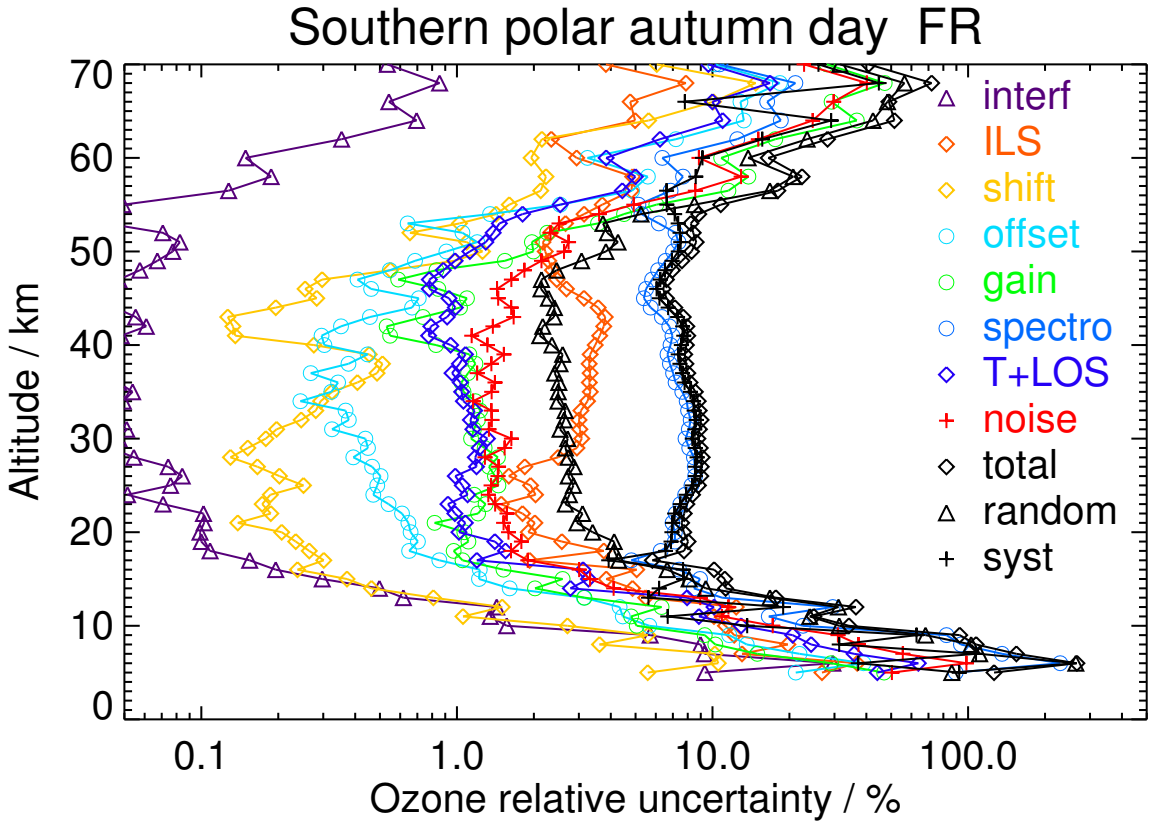

Figure S33. V8H_O3_61 Southern polar autumn day

Table S35. Ozone error budget for Southern polar autumn night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.06	23.83	71.26	10.82	48.20	51.12	>100	64.86	88.48	>100	>100	>100
9	0.14	3.97	28.89	4.38	14.21	17.75	69.30	25.61	30.53	84.09	26.55	88.18
12	0.38	1.33	16.87	1.00	5.80	7.55	39.08	10.01	10.05	43.97	13.16	45.89
15	1.12	0.35	7.03	0.38	1.63	3.49	8.50	3.08	3.11	10.95	6.00	12.49
18	2.34	0.11	2.59	0.24	0.71	1.14	5.44	1.28	1.64	4.33	4.87	6.52
21	2.93	0.09	2.03	0.18	0.66	0.91	7.27	1.14	1.55	3.27	7.16	7.87
24	3.29	0.05	1.96	0.23	0.54	1.17	7.90	1.18	1.41	3.09	7.85	8.44
27	3.47	0.07	1.67	0.24	0.51	1.43	8.41	1.25	1.57	2.71	8.52	8.94
30	3.68	0.04	3.05	0.16	0.49	1.22	8.25	1.46	1.76	3.23	8.60	9.18
33	3.87	0.04	3.14	0.30	0.43	1.33	8.73	1.34	1.60	3.09	9.11	9.62
36	4.00	0.04	3.58	0.45	0.42	1.07	7.91	1.17	1.75	3.39	8.35	9.01
39	4.22	0.02	3.29	0.62	0.53	1.20	6.46	1.10	1.74	3.63	6.76	7.67
42	4.02	0.04	3.53	0.13	0.30	0.60	6.74	0.77	1.41	2.64	7.34	7.80
45	3.36	0.03	2.99	0.17	0.51	0.99	5.50	0.95	1.81	2.81	6.06	6.68
48	2.57	0.06	2.57	0.41	0.56	0.77	6.22	0.90	2.07	2.76	6.62	7.17
52	1.72	0.07	2.66	0.79	0.92	1.81	6.25	1.16	2.32	3.68	6.64	7.59
56	1.31	0.08	1.53	1.02	2.65	5.11	4.18	2.40	4.40	7.81	4.25	8.89
60	1.14	0.09	4.38	1.00	3.33	8.51	4.98	3.96	5.50	10.83	7.56	13.20
64	1.54	0.21	4.73	1.23	4.27	9.73	5.41	3.85	6.32	12.34	8.28	14.86
68	1.57	0.08	4.31	1.39	4.18	8.72	4.32	6.42	6.53	11.93	8.62	14.72

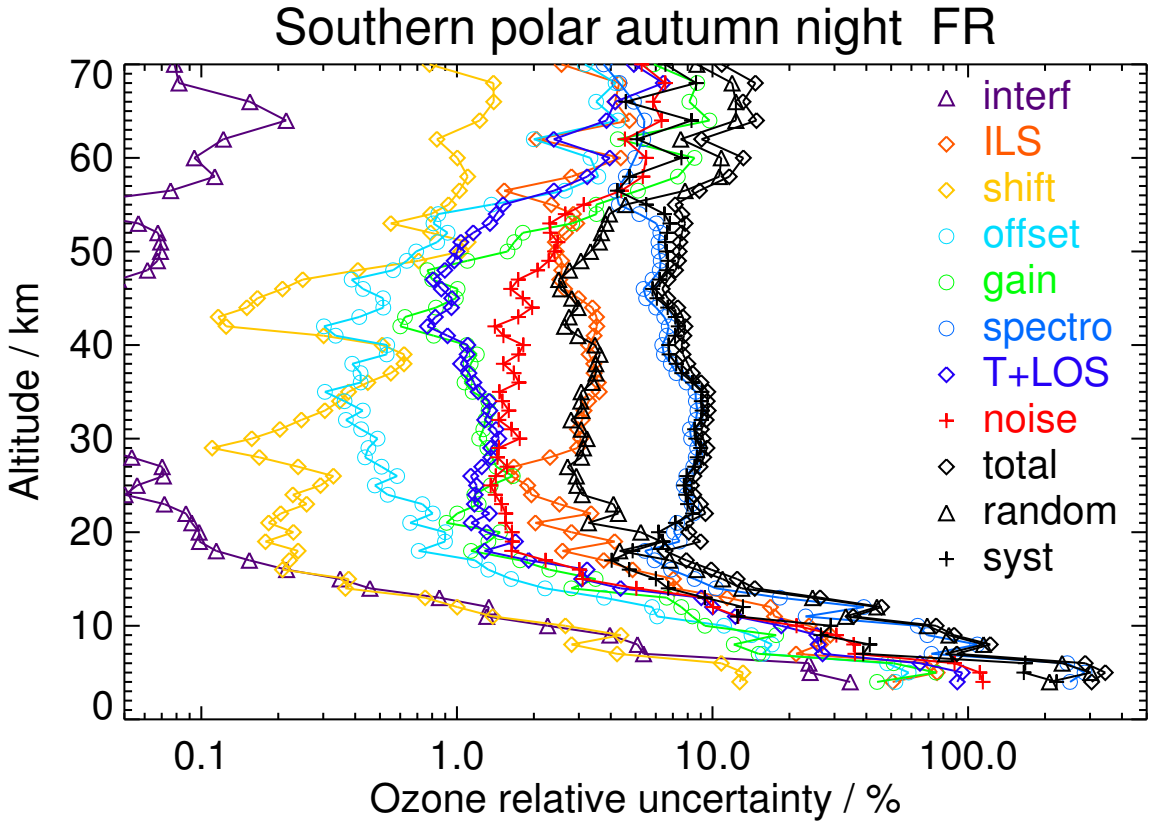

Figure S34. V8H_O3_61 Southern polar autumn night

Table S36. Ozone error budget for Northern polar winter day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.32	2.72	10.41	1.77	3.25	3.50	17.48	5.62	10.72	20.17	13.66	24.37
12	0.79	1.13	8.45	0.40	1.25	2.08	9.99	3.17	4.09	11.23	8.91	14.33
15	1.91	0.61	2.72	0.14	0.50	1.07	5.94	1.59	1.85	5.94	3.87	7.09
18	3.03	0.22	3.31	0.16	0.60	1.63	5.28	1.18	1.32	5.17	4.28	6.71
21	4.87	0.17	1.30	0.12	0.39	1.51	5.34	0.67	1.04	2.38	5.34	5.85
24	6.08	0.20	3.16	0.09	0.31	1.05	6.62	0.76	0.88	2.35	7.13	7.51
27	6.62	0.06	1.25	0.13	0.31	1.73	7.36	0.69	0.93	2.22	7.43	7.76
30	6.82	0.12	3.11	0.11	0.28	1.16	7.70	0.70	0.96	2.42	8.12	8.47
33	6.72	0.10	3.22	0.14	0.26	1.19	8.16	0.73	1.07	2.10	8.71	8.96
36	6.27	0.05	3.04	0.07	0.24	1.38	8.44	0.75	1.12	1.83	8.99	9.18
39	5.88	0.10	3.31	0.10	0.31	0.94	7.86	0.80	1.45	2.28	8.44	8.75
42	5.57	0.11	2.72	0.11	0.38	0.91	7.01	0.74	1.81	2.46	7.43	7.83
45	5.03	0.10	1.90	0.17	0.56	1.53	6.38	0.76	2.07	2.84	6.62	7.20
48	4.13	0.13	1.32	0.27	0.78	1.95	6.55	0.95	2.59	3.34	6.75	7.53
52	2.75	0.10	1.91	0.09	0.67	2.16	7.61	1.27	3.28	4.09	7.90	8.90
56	1.53	0.17	1.70	0.21	1.11	2.81	7.22	2.53	5.88	6.81	7.67	10.26
60	0.90	0.16	3.01	0.36	2.11	2.96	7.38	4.91	11.29	12.94	7.81	15.12
64	0.52	0.13	2.45	0.27	3.11	3.56	7.09	5.39	12.83	15.13	6.60	16.50
68	0.29	0.16	4.88	0.33	7.32	3.21	8.79	5.05	22.67	25.13	8.53	26.54

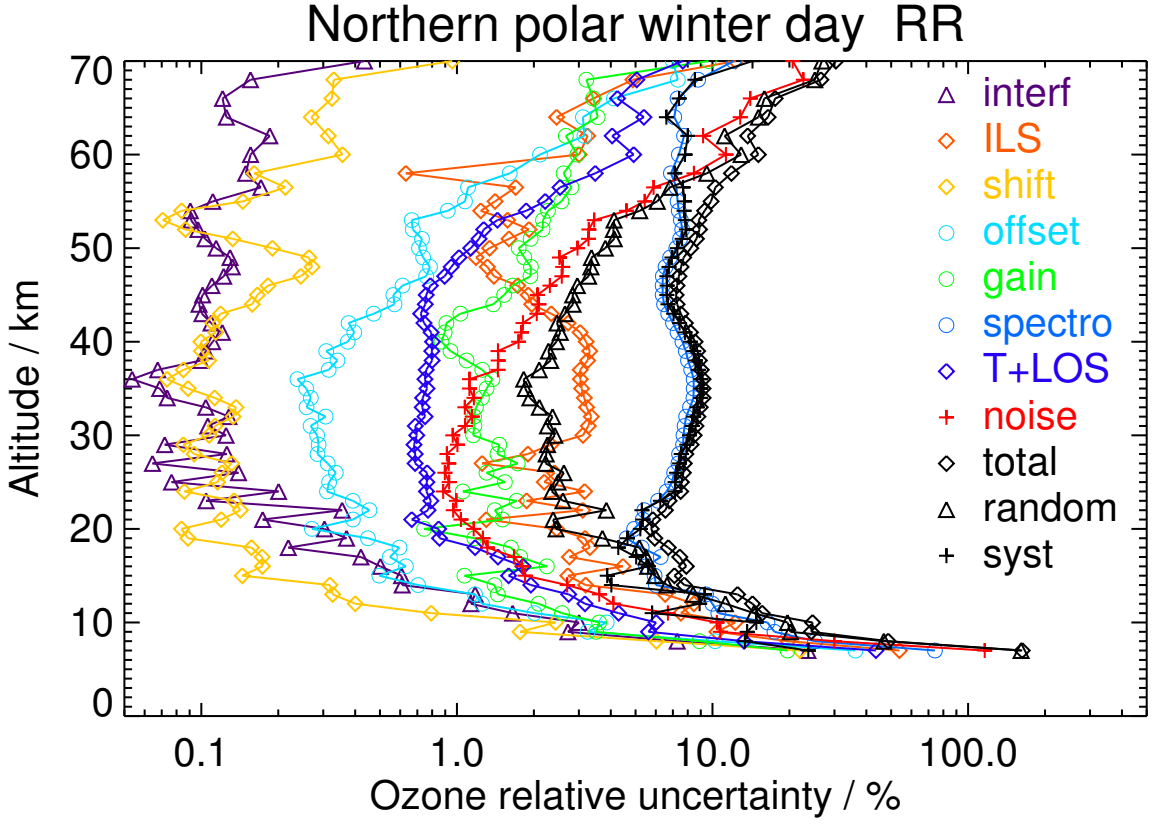

Figure S35. V8R_O3_261 Northern polar winter day

Table S37. Ozone error budget for Northern polar winter night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.00	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
9	0.26	3.18	15.17	2.17	5.14	7.05	16.01	7.02	15.18	28.45	6.91	29.28
12	0.78	0.72	10.73	0.39	1.43	4.76	8.79	3.55	4.91	12.93	9.34	15.95
15	1.81	0.40	6.60	0.21	0.80	2.41	6.39	2.28	2.24	8.22	5.80	10.06
18	3.20	0.23	3.33	0.12	0.39	0.93	6.35	1.21	1.48	3.86	6.42	7.49
21	4.32	0.21	2.95	0.13	0.40	1.25	6.12	0.91	1.34	3.51	6.19	7.11
24	5.31	0.25	2.72	0.17	0.71	2.48	5.63	0.96	1.01	3.98	5.65	6.91
27	6.16	0.09	2.34	0.09	0.29	1.47	6.77	0.67	1.08	2.35	7.04	7.42
30	6.94	0.13	1.84	0.16	0.45	1.94	6.09	0.62	0.82	2.73	6.17	6.75
33	7.09	0.10	2.91	0.22	0.30	1.51	6.55	0.59	0.88	2.25	7.06	7.41
36	6.51	0.06	3.07	0.15	0.21	1.38	7.03	0.60	0.88	2.07	7.60	7.87
39	5.48	0.08	2.14	0.09	0.24	1.30	7.11	0.63	1.13	2.65	7.17	7.65
42	4.53	0.11	2.56	0.09	0.28	0.95	6.77	0.58	1.51	3.17	6.77	7.48
45	3.91	0.14	2.91	0.09	0.34	0.66	5.94	0.48	1.82	2.94	6.26	6.92
48	3.39	0.24	3.00	0.17	0.67	1.27	5.73	0.65	2.40	3.75	6.01	7.08
52	2.69	0.14	2.04	0.10	0.63	1.38	5.93	0.76	2.94	3.84	6.01	7.13
56	1.94	0.15	1.30	0.22	0.95	3.27	5.78	1.56	4.37	5.24	6.39	8.27
60	1.45	0.21	1.69	0.38	1.61	3.42	6.42	2.77	7.23	8.77	6.45	10.88
64	1.49	0.38	4.82	0.58	1.79	4.98	5.46	4.42	7.05	9.92	7.23	12.28
68	1.86	0.29	6.54	0.55	3.27	3.85	5.03	4.82	8.40	11.99	6.63	13.70

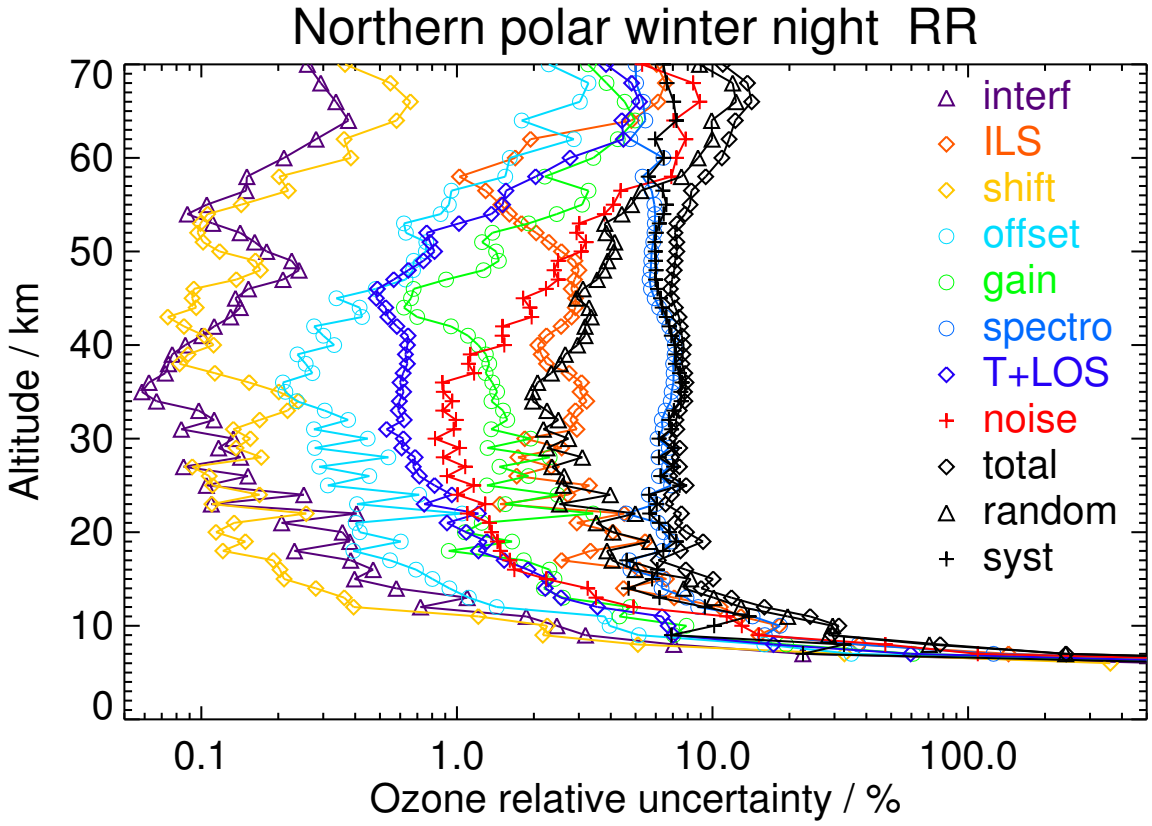

Figure S36. V8R_O3_261 Northern polar winter night

Table S38. Ozone error budget for Northern polar spring day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.13	10.09	62.96	5.44	13.31	33.59	67.27	31.62	45.90	>100	32.07	>100
9	0.46	2.23	5.01	1.30	3.16	2.22	9.78	6.58	10.40	15.15	8.02	17.14
12	0.82	0.70	5.08	0.16	1.22	2.15	5.84	3.21	4.89	9.37	3.62	10.04
15	1.70	0.38	3.97	0.17	0.62	1.43	5.81	2.15	2.39	5.33	5.84	7.90
18	3.16	0.21	2.99	0.06	0.32	0.70	4.81	1.05	1.48	3.07	5.16	6.00
21	4.51	0.10	1.93	0.06	0.28	1.14	6.71	0.83	1.22	2.01	6.95	7.24
24	4.89	0.08	2.36	0.10	0.30	1.36	8.14	0.96	1.20	2.11	8.47	8.72
27	4.79	0.07	2.98	0.08	0.36	1.46	9.26	1.01	1.37	2.22	9.74	9.99
30	4.62	0.08	3.62	0.23	0.36	1.34	8.36	0.95	1.57	2.61	9.03	9.40
33	5.35	0.06	2.58	0.11	0.37	1.61	6.79	0.76	1.55	2.41	7.26	7.65
36	6.20	0.02	2.31	0.12	0.41	1.71	6.53	0.74	1.33	2.10	7.00	7.31
39	6.06	0.03	1.59	0.22	0.58	1.88	6.11	0.85	1.41	1.96	6.54	6.82
42	5.09	0.05	1.75	0.27	0.53	1.60	5.80	0.79	1.61	2.04	6.21	6.54
45	3.67	0.10	2.95	0.11	0.30	0.73	5.89	0.58	1.85	2.15	6.57	6.91
48	2.52	0.18	2.54	0.19	0.48	1.14	5.41	0.72	2.53	2.80	6.03	6.65
52	1.65	0.13	1.93	0.11	0.57	2.43	4.89	0.88	2.86	3.84	5.29	6.54
56	1.00	0.13	1.90	0.28	0.94	3.56	4.82	1.64	4.86	5.79	5.76	8.17
60	0.72	0.15	1.14	0.22	1.55	3.07	5.40	2.80	7.55	8.74	5.55	10.35
64	0.48	0.28	2.50	0.82	2.70	6.57	7.00	3.58	10.54	12.84	8.08	15.18
68	0.30	0.42	1.41	1.12	4.60	10.55	5.69	4.29	15.39	18.10	9.79	20.58

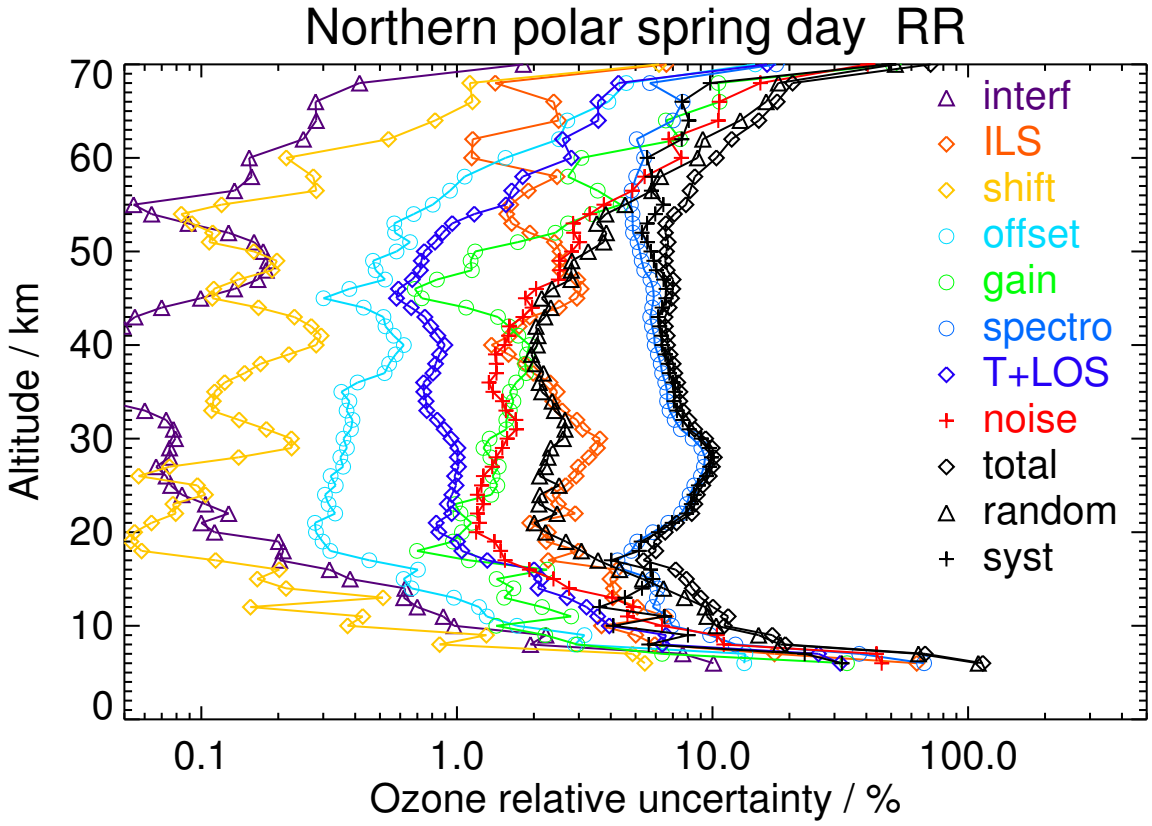

Figure S37. V8R_O3_261 Northern polar spring day

Table S39. Ozone error budget for Northern polar spring night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.39	1.77	5.75	1.24	3.65	2.51	9.16	7.02	11.04	16.91	5.15	17.68
12	0.78	0.57	5.61	0.29	1.28	2.70	6.30	3.15	4.79	9.05	5.62	10.65
15	1.38	0.40	5.70	0.25	0.83	2.34	6.84	2.42	2.75	7.14	6.93	9.95
18	2.86	0.21	2.33	0.12	0.50	1.18	4.61	1.16	1.53	3.83	4.17	5.66
21	4.48	0.11	1.61	0.10	0.35	1.36	6.58	0.81	1.25	2.48	6.64	7.08
24	5.03	0.09	3.18	0.10	0.34	1.19	8.50	0.99	1.12	2.32	8.98	9.28
27	5.03	0.06	2.68	0.07	0.34	1.59	9.14	0.95	1.37	2.12	9.57	9.81
30	5.25	0.08	3.77	0.20	0.32	1.13	7.99	0.86	1.37	2.04	8.83	9.06
33	6.40	0.06	2.91	0.11	0.29	1.38	7.06	0.70	1.31	1.88	7.68	7.91
36	7.28	0.03	2.62	0.10	0.32	1.57	7.11	0.70	1.12	1.57	7.70	7.86
39	6.79	0.03	1.98	0.22	0.47	1.70	7.02	0.80	1.25	1.72	7.46	7.66
42	5.25	0.05	1.63	0.32	0.55	1.69	6.56	0.85	1.52	2.00	6.93	7.21
45	3.70	0.10	2.79	0.14	0.32	0.95	5.94	0.60	1.84	2.17	6.57	6.91
48	2.67	0.17	2.17	0.22	0.50	1.32	5.28	0.68	2.54	2.82	5.80	6.45
52	1.90	0.13	2.01	0.10	0.58	2.08	4.81	0.76	2.80	3.60	5.23	6.35
56	1.37	0.12	1.67	0.12	0.79	2.79	4.14	1.31	3.54	4.31	4.90	6.53
60	1.29	0.10	1.33	0.16	1.02	2.39	3.93	1.99	4.77	5.66	4.33	7.12
64	1.31	0.12	0.53	0.31	1.07	1.95	4.68	2.25	4.28	5.41	4.62	7.11
68	1.22	0.07	0.82	0.27	2.17	2.98	4.13	3.78	5.98	7.69	4.74	9.03

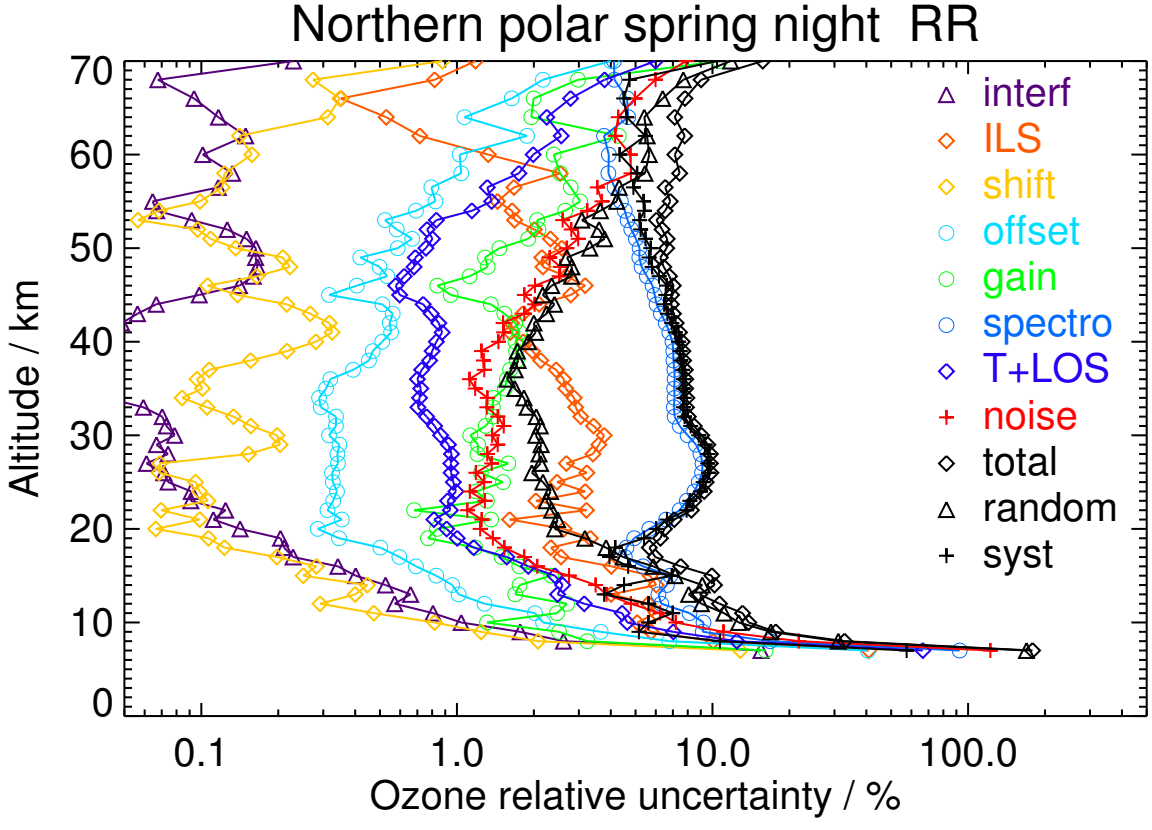

Figure S38. V8R_O3_261 Northern polar spring night

Table S40. Ozone error budget for Northern polar summer day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.11	6.54	24.87	3.14	14.32	8.59	37.81	23.36	44.15	66.33	21.81	69.82
12	0.54	1.12	10.94	0.64	2.45	3.17	9.90	4.22	8.03	13.15	12.03	17.83
15	0.73	0.69	5.47	0.44	1.66	2.35	5.66	3.35	5.67	9.70	4.50	10.70
18	1.69	0.35	1.57	0.15	0.52	0.81	4.24	1.06	2.21	3.33	4.05	5.25
21	2.78	0.21	1.21	0.15	0.41	1.64	5.52	0.86	1.82	2.70	5.62	6.23
24	3.31	0.12	1.99	0.10	0.41	1.53	5.45	0.65	1.19	2.66	5.56	6.17
27	4.05	0.09	1.60	0.14	0.37	1.66	6.22	0.69	1.58	2.57	6.37	6.86
30	5.00	0.08	1.31	0.17	0.41	2.17	5.39	0.56	0.99	1.70	5.84	6.08
33	5.91	0.07	2.80	0.10	0.24	1.46	5.76	0.47	0.98	1.33	6.53	6.66
36	6.49	0.03	2.49	0.05	0.22	1.64	5.89	0.50	0.89	1.21	6.57	6.68
39	6.26	0.06	1.47	0.13	0.21	1.74	5.70	0.52	0.94	1.21	6.12	6.24
42	5.22	0.05	1.61	0.10	0.29	1.74	5.34	0.52	1.09	1.34	5.82	5.97
45	3.89	0.14	2.86	0.07	0.16	0.54	5.12	0.43	1.24	1.36	5.88	6.04
48	2.87	0.14	1.86	0.23	0.34	1.50	4.25	0.51	1.77	1.96	4.85	5.23
52	2.06	0.14	1.96	0.13	0.39	0.52	4.18	0.45	2.03	2.22	4.60	5.11
56	1.42	0.14	1.82	0.15	0.63	2.51	4.40	0.75	2.82	3.20	5.27	6.16
60	1.13	0.22	0.90	0.14	1.05	3.70	4.84	1.67	4.47	5.31	5.80	7.86
64	0.66	0.70	1.53	1.15	3.69	13.82	10.72	5.41	10.76	13.27	17.10	21.65
68	0.51	0.62	3.49	0.72	3.19	7.08	6.42	3.06	12.00	14.32	7.93	16.37

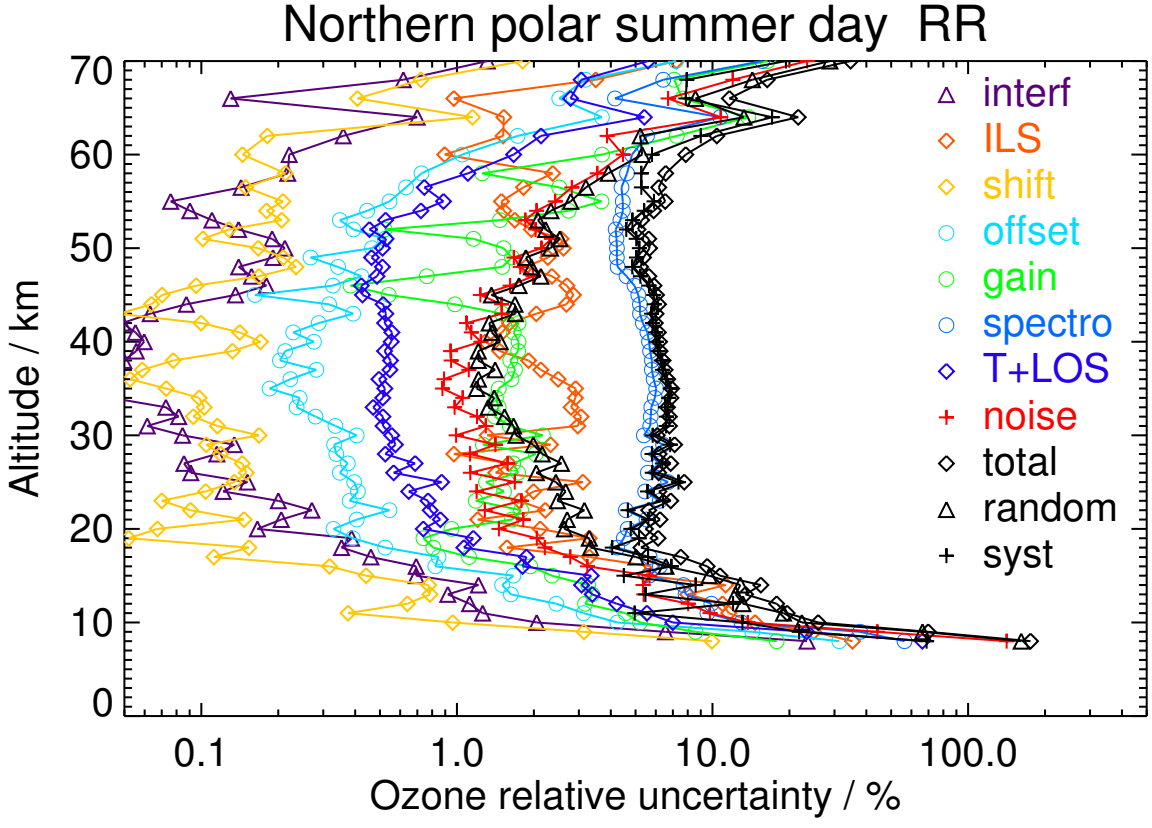

Figure S39. V8R_O3_261 Northern polar summer day

Table S41. Ozone error budget for Northern polar summer night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
12	0.46	1.45	2.22	0.65	4.00	1.75	8.11	5.89	14.43	17.65	4.88	18.31
15	0.69	0.46	5.39	0.22	1.26	1.96	7.76	3.10	5.11	7.03	9.02	11.43
18	1.63	0.28	0.71	0.10	0.45	0.98	4.13	1.10	2.17	3.01	3.95	4.97
21	2.79	0.16	0.71	0.10	0.37	1.63	5.87	0.74	1.74	2.52	5.92	6.43
24	3.30	0.11	1.64	0.10	0.34	1.18	5.51	0.66	1.44	2.78	5.42	6.09
27	4.61	0.07	1.20	0.13	0.31	1.70	6.46	0.65	1.38	2.63	6.45	6.96
30	5.37	0.07	2.18	0.13	0.27	1.63	6.32	0.56	1.12	1.98	6.72	7.00
33	6.29	0.06	3.02	0.10	0.21	1.35	6.17	0.53	1.11	1.59	6.93	7.11
36	6.85	0.03	2.81	0.08	0.19	1.49	6.40	0.56	0.95	1.29	7.11	7.23
39	6.51	0.04	2.25	0.08	0.19	1.48	6.41	0.60	1.06	1.30	6.94	7.06
42	5.29	0.05	2.36	0.09	0.21	1.35	6.20	0.59	1.29	1.50	6.76	6.92
45	3.90	0.11	2.86	0.09	0.23	0.74	5.47	0.47	1.58	1.72	6.20	6.44
48	3.01	0.14	2.35	0.16	0.39	1.17	4.61	0.48	2.16	2.30	5.28	5.76
52	2.32	0.13	1.95	0.07	0.48	0.92	4.45	0.49	2.40	2.68	4.86	5.55
56	1.73	0.09	1.47	0.06	0.63	2.81	4.52	0.97	2.72	3.08	5.45	6.26
60	1.41	0.12	0.67	0.09	0.83	2.20	4.64	1.68	4.23	4.85	4.98	6.95
64	1.15	0.18	1.33	0.39	1.28	2.84	6.23	2.85	5.23	6.34	6.76	9.27
68	1.08	0.16	0.64	0.37	2.25	2.21	4.82	3.72	6.89	8.56	4.66	9.75

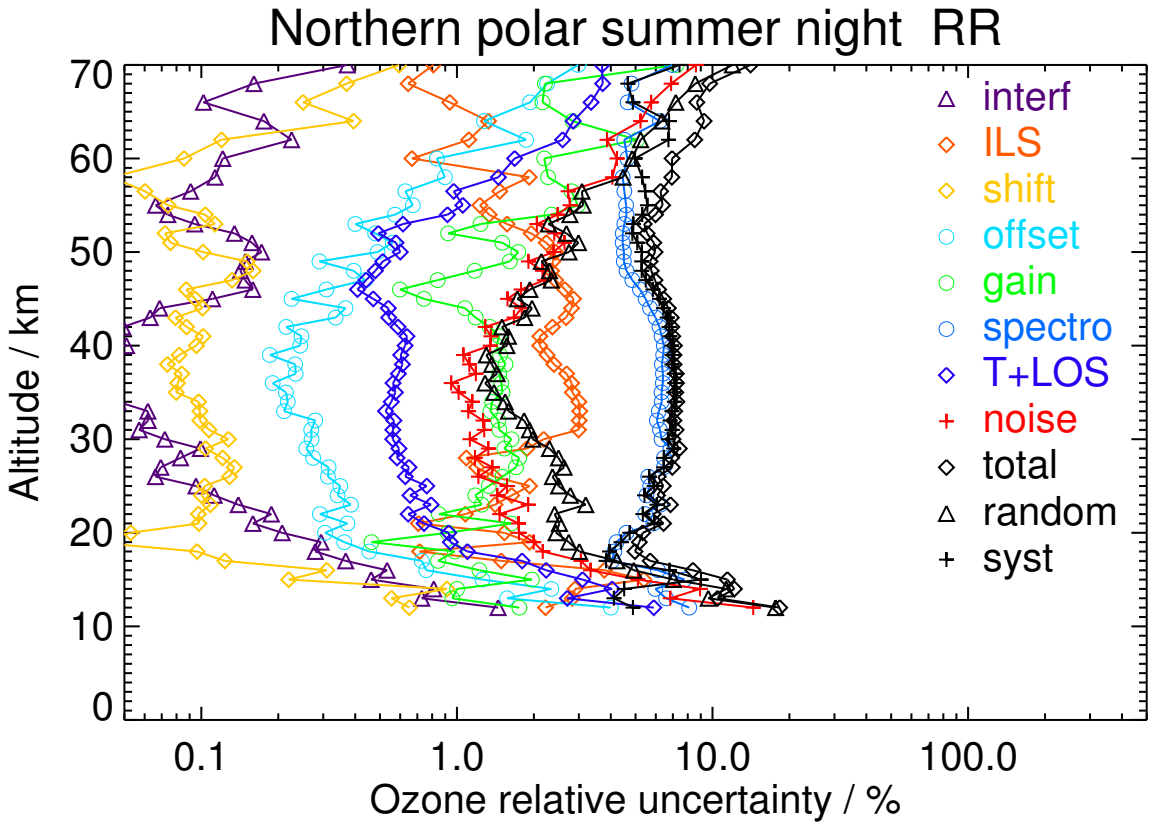

Figure S40. V8R_O3_261 Northern polar summer night

Table S42. Ozone error budget for Northern polar autumn day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	-0.03	8.42	>100	11.95	31.31	99.74	>100	84.38	71.88	>100	>100	>100
12	0.38	0.86	16.86	0.65	2.81	4.90	11.05	5.57	8.74	23.09	3.70	23.38
15	1.00	0.34	5.98	0.24	1.04	1.59	8.95	3.04	3.29	7.00	9.53	11.82
18	2.12	0.20	1.33	0.08	0.41	1.12	4.63	1.08	1.72	3.13	4.36	5.37
21	3.06	0.16	1.13	0.09	0.40	1.34	5.50	0.79	1.59	2.39	5.56	6.06
24	3.89	0.10	1.89	0.11	0.36	1.26	6.49	0.87	1.41	2.55	6.61	7.08
27	4.51	0.06	1.78	0.08	0.34	1.62	7.88	0.83	1.42	2.93	7.88	8.41
30	4.85	0.06	2.52	0.16	0.35	1.48	7.47	0.80	1.41	2.73	7.73	8.19
33	5.56	0.05	2.67	0.09	0.30	1.37	6.97	0.71	1.43	2.14	7.46	7.76
36	6.15	0.03	2.80	0.07	0.27	1.39	7.18	0.70	1.25	2.01	7.71	7.97
39	6.01	0.04	2.66	0.12	0.32	1.28	7.11	0.73	1.45	2.24	7.55	7.87
42	5.23	0.04	2.50	0.17	0.38	1.16	6.71	0.71	1.75	2.30	7.15	7.51
45	4.18	0.08	2.63	0.08	0.35	0.84	6.35	0.63	2.02	2.38	6.85	7.25
48	3.14	0.12	2.45	0.13	0.53	0.84	6.42	0.76	2.73	3.10	6.83	7.50
52	1.96	0.14	2.18	0.09	0.79	1.49	6.79	1.06	3.77	4.36	7.08	8.31
56	1.02	0.12	1.60	0.21	1.19	5.09	5.89	2.55	5.86	7.09	7.43	10.27
60	0.64	0.15	1.45	0.31	1.87	3.05	6.76	4.10	10.17	11.73	6.58	13.45
64	0.48	0.15	1.24	0.36	2.06	3.09	5.25	3.16	9.92	11.23	5.03	12.31
68	0.32	0.17	1.55	0.41	4.65	3.72	6.56	3.85	16.18	17.81	6.37	18.91

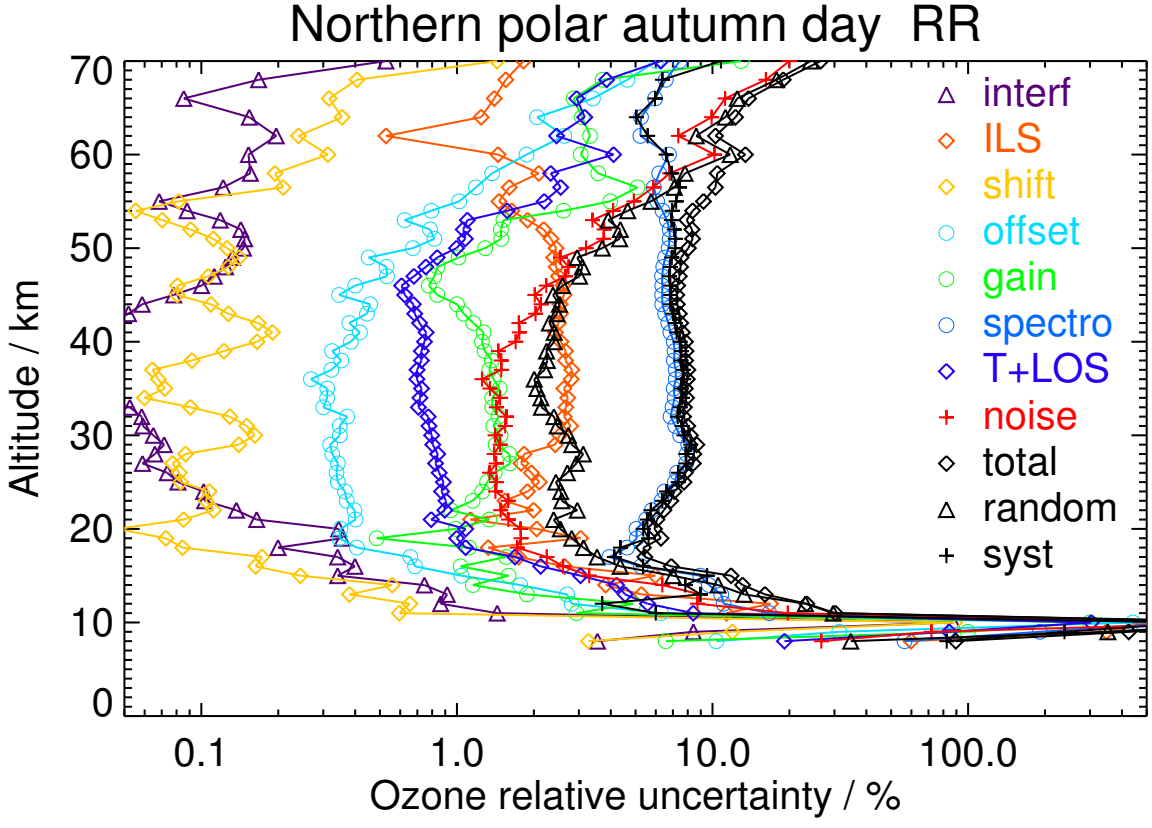

Figure S41. V8R_O3_261 Northern polar autumn day

Table S43. Ozone error budget for Northern polar autumn night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.08	6.88	44.85	1.93	12.24	8.57	16.53	15.47	36.44	42.09	48.53	64.23
12	0.41	0.81	6.68	0.36	2.52	2.43	7.36	4.97	8.44	13.84	4.01	14.41
15	1.12	0.32	4.16	0.15	0.86	0.99	7.17	2.61	3.07	5.61	7.44	9.32
18	2.18	0.22	1.71	0.08	0.41	1.29	5.45	1.07	1.73	3.19	5.34	6.22
21	3.03	0.18	1.17	0.12	0.44	1.45	6.02	0.83	1.63	2.64	6.03	6.58
24	3.76	0.11	2.42	0.10	0.38	1.14	7.45	0.91	1.42	2.72	7.63	8.10
27	4.10	0.07	2.10	0.09	0.38	1.66	8.44	0.84	1.55	3.23	8.44	9.04
30	4.59	0.07	2.66	0.18	0.38	1.60	7.50	0.74	1.43	2.85	7.78	8.29
33	5.30	0.05	2.96	0.10	0.31	1.50	7.36	0.66	1.44	2.81	7.74	8.24
36	5.81	0.03	3.09	0.09	0.27	1.43	7.54	0.68	1.30	2.99	7.86	8.41
39	5.79	0.04	2.82	0.12	0.30	1.27	7.32	0.69	1.48	2.76	7.63	8.12
42	5.17	0.04	2.53	0.19	0.40	1.22	6.82	0.70	1.74	2.57	7.18	7.62
45	4.13	0.08	2.66	0.11	0.36	1.01	6.36	0.62	1.96	2.41	6.86	7.27
48	3.05	0.13	2.49	0.15	0.52	1.04	6.28	0.74	2.70	3.02	6.77	7.41
52	1.94	0.13	2.07	0.08	0.71	1.90	5.83	0.97	3.45	4.20	6.13	7.43
56	1.39	0.13	1.81	0.07	1.03	2.99	4.22	1.72	4.51	5.45	4.97	7.38
60	1.25	0.10	1.78	0.12	1.39	2.65	3.81	2.54	6.53	7.35	4.66	8.70
64	1.33	0.15	0.97	0.21	1.32	1.53	4.01	2.60	5.03	6.07	4.04	7.30
68	1.52	0.09	0.89	0.19	2.63	2.25	3.84	4.01	7.19	8.89	4.04	9.77

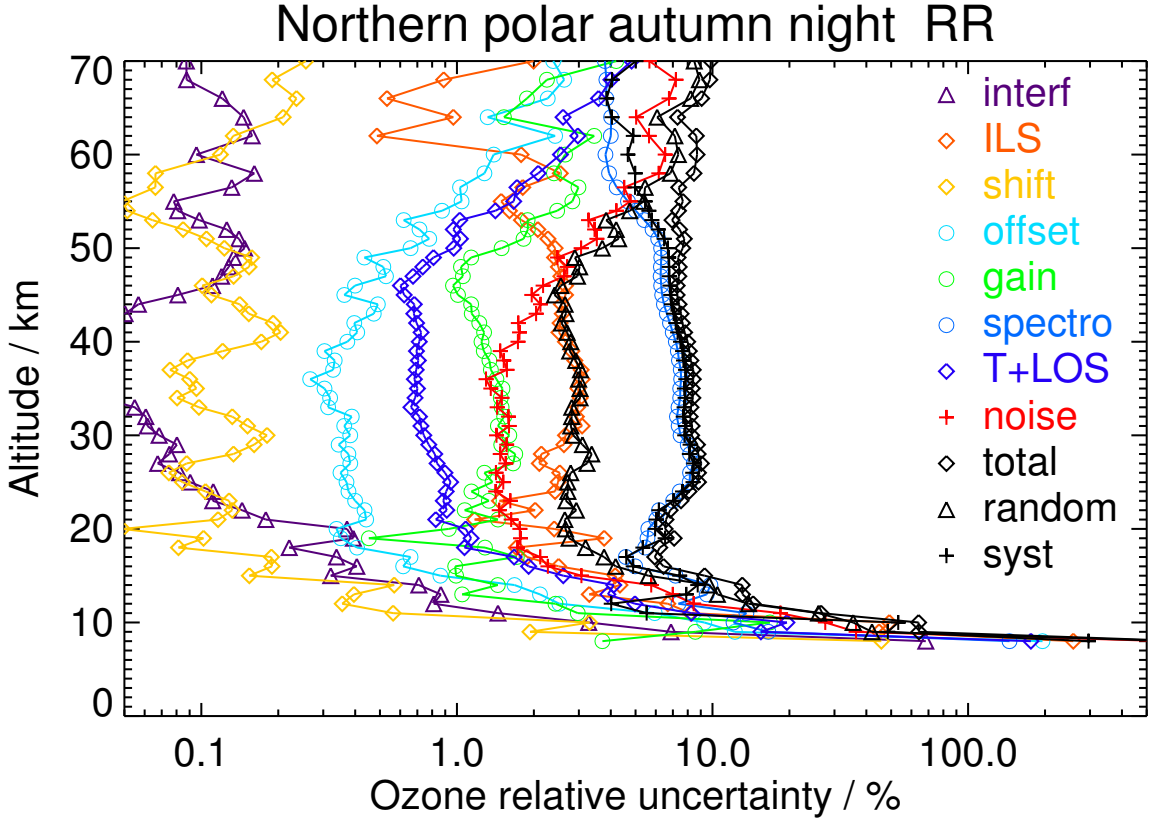

Figure S42. V8R_O3_261 Northern polar autumn night

Table S44. Ozone error budget for Northern midlatitude winter day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.09	8.85	56.38	6.02	13.26	18.95	40.22	20.37	46.90	70.76	55.26	89.78
9	0.09	4.98	61.55	5.68	12.96	21.20	62.42	18.53	40.44	98.98	23.27	>100
12	0.44	1.35	22.46	0.97	3.50	7.86	20.33	7.02	8.50	23.06	24.16	33.40
15	1.06	0.52	10.61	0.37	1.35	3.71	8.03	2.66	3.35	14.05	3.72	14.54
18	2.19	0.25	5.60	0.21	0.70	1.94	5.63	1.40	1.92	6.91	5.03	8.55
21	4.06	0.12	2.78	0.14	0.47	1.58	5.17	0.87	1.27	3.65	5.12	6.29
24	5.57	0.12	2.49	0.19	0.54	1.88	5.99	0.84	1.00	3.51	5.94	6.90
27	6.38	0.08	2.26	0.13	0.37	1.76	7.17	0.78	1.05	2.50	7.43	7.84
30	6.83	0.08	2.61	0.15	0.35	1.73	6.88	0.68	0.99	2.23	7.34	7.67
33	7.20	0.05	2.99	0.14	0.32	1.59	6.87	0.68	0.98	2.10	7.47	7.76
36	7.32	0.05	2.13	0.07	0.29	1.64	6.69	0.63	1.03	1.67	7.13	7.32
39	6.83	0.05	1.91	0.11	0.29	1.56	6.75	0.63	1.21	1.88	7.08	7.32
42	5.85	0.06	1.89	0.16	0.41	1.40	6.33	0.59	1.47	1.92	6.68	6.95
45	4.74	0.10	1.97	0.17	0.45	1.22	5.79	0.56	1.86	2.33	6.12	6.55
48	3.63	0.13	2.44	0.13	0.50	1.15	5.99	0.63	2.35	2.81	6.44	7.02
52	2.37	0.07	2.03	0.10	0.61	2.61	6.39	1.07	2.59	3.30	7.00	7.74
56	1.37	0.16	1.56	0.16	1.04	1.89	6.47	1.84	5.11	5.88	6.63	8.86
60	0.93	0.13	1.31	0.26	1.79	2.78	6.09	3.09	9.17	10.48	5.80	11.98
64	0.67	0.19	2.36	0.47	3.13	3.49	7.16	4.44	10.39	12.49	7.13	14.38
68	0.49	0.18	4.52	0.46	5.40	4.31	6.62	5.08	16.42	19.09	6.57	20.19

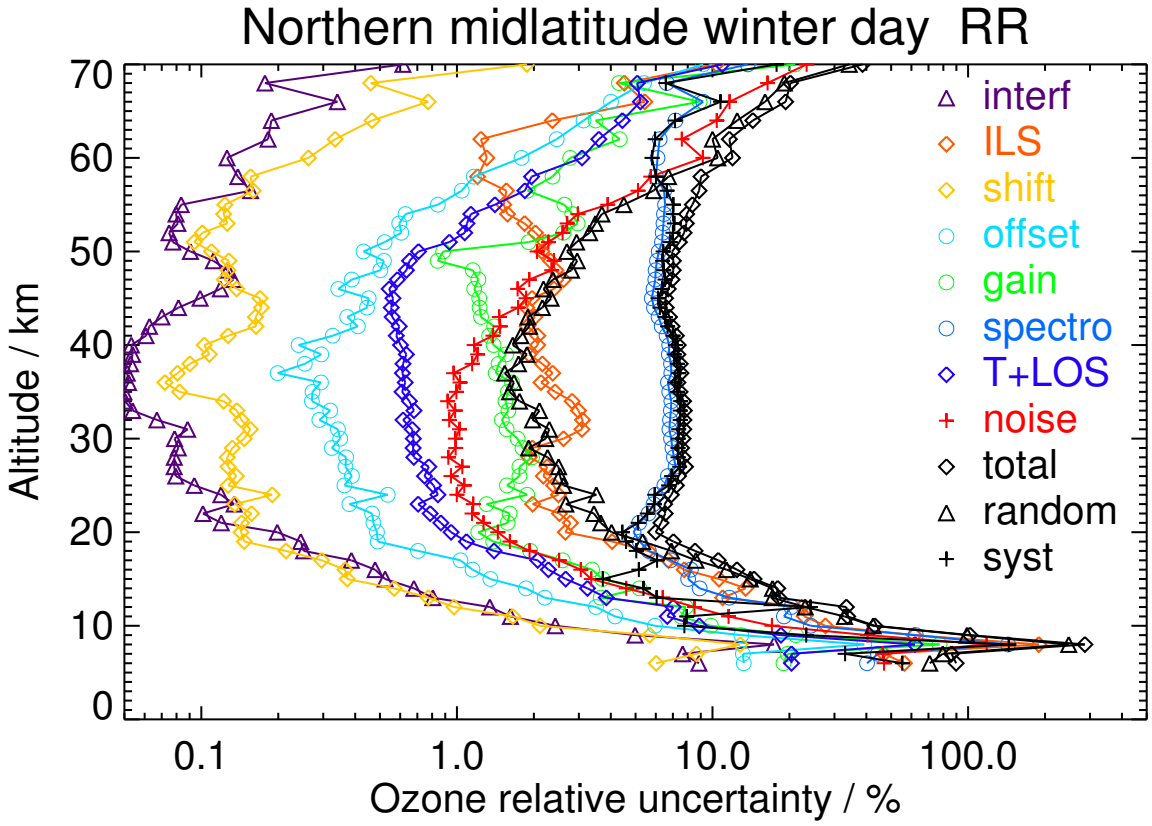

Figure S43. V8R_O3_261 Northern midlatitude winter day

Table S45. Ozone error budget for Northern midlatitude winter night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.06	13.59	32.21	3.05	23.03	17.60	58.76	22.97	73.43	>100	14.29	>100
9	0.11	5.29	40.34	2.82	10.09	17.06	28.04	15.23	29.69	60.14	18.40	62.90
12	0.47	1.24	13.53	0.58	2.44	5.25	12.15	4.92	7.43	17.75	11.42	21.10
15	0.81	0.72	9.94	0.36	1.51	4.48	8.96	2.68	4.19	14.41	4.40	15.07
18	2.02	0.28	4.70	0.17	0.79	2.11	5.42	1.45	2.08	6.77	4.15	7.94
21	3.93	0.12	2.11	0.12	0.47	1.44	4.88	0.85	1.32	3.33	4.69	5.75
24	5.52	0.11	2.39	0.14	0.39	1.41	6.02	0.77	1.01	2.84	6.13	6.76
27	6.31	0.08	1.89	0.11	0.35	1.84	7.37	0.79	1.07	2.28	7.62	7.95
30	6.54	0.08	3.00	0.15	0.37	1.76	7.01	0.70	1.03	2.35	7.57	7.93
33	7.02	0.05	2.72	0.11	0.30	1.60	6.51	0.65	1.00	1.71	7.14	7.34
36	7.20	0.06	1.98	0.08	0.33	1.71	6.42	0.62	1.04	1.70	6.84	7.05
39	6.78	0.05	1.30	0.13	0.38	1.84	6.28	0.63	1.18	1.79	6.58	6.82
42	5.75	0.07	1.93	0.15	0.41	1.38	6.05	0.56	1.44	1.91	6.41	6.69
45	4.56	0.11	2.14	0.15	0.43	1.01	5.61	0.49	1.84	2.29	5.97	6.39
48	3.52	0.13	2.34	0.11	0.49	1.12	5.45	0.56	2.27	2.58	5.96	6.49
52	2.50	0.07	1.91	0.10	0.58	2.66	5.74	0.99	2.38	2.88	6.51	7.12
56	1.78	0.15	1.42	0.12	0.89	1.87	5.44	1.41	4.30	4.81	5.77	7.51
60	1.47	0.14	0.88	0.14	1.58	1.71	5.13	2.15	7.75	8.59	4.84	9.86
64	1.43	0.27	2.50	0.35	2.65	2.88	6.40	3.95	7.76	9.80	6.51	11.77
68	1.32	0.27	4.73	0.47	4.09	3.72	7.02	4.96	11.02	13.72	7.75	15.76

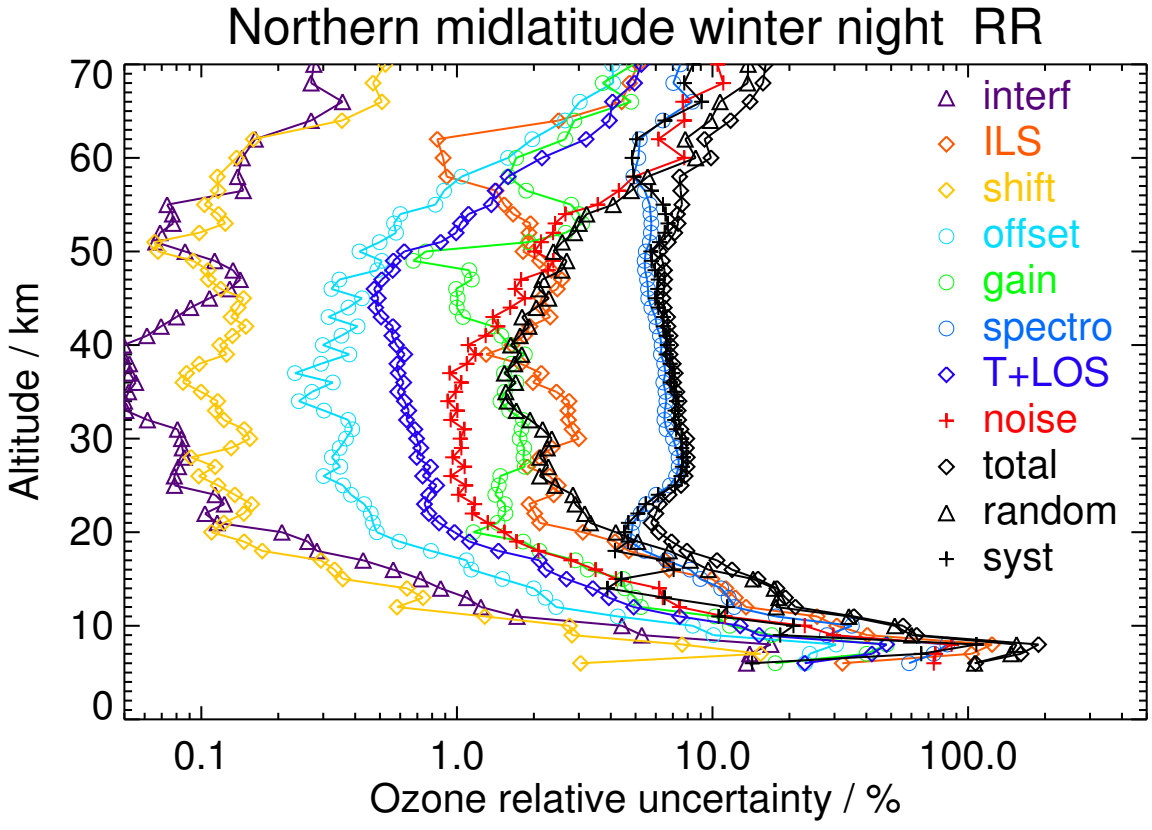

Figure S44. V8R_O3_261 Northern midlatitude winter night

Table S46. Ozone error budget for Northern midlatitude spring day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.25	2.72	15.90	1.73	4.46	5.16	12.50	9.09	15.00	26.48	8.52	27.82
12	0.60	0.99	18.37	0.60	2.49	5.91	12.82	5.02	6.60	23.86	6.62	24.76
15	0.83	0.64	11.38	0.38	1.63	4.54	11.24	3.29	4.61	15.86	7.74	17.65
18	1.90	0.30	4.00	0.13	0.68	1.47	6.26	1.52	2.30	6.98	4.08	8.09
21	3.68	0.12	1.67	0.12	0.40	1.20	5.16	0.82	1.39	3.38	4.72	5.80
24	5.06	0.09	2.04	0.13	0.36	1.34	6.07	0.82	1.21	2.53	6.22	6.71
27	6.64	0.07	1.33	0.16	0.37	1.85	6.13	0.70	0.97	2.12	6.31	6.66
30	8.01	0.07	2.39	0.09	0.25	1.53	6.79	0.65	0.95	1.81	7.23	7.45
33	8.78	0.05	2.61	0.11	0.29	1.63	6.73	0.67	0.89	1.68	7.30	7.49
36	8.81	0.04	2.46	0.08	0.24	1.58	6.94	0.67	0.88	1.44	7.48	7.62
39	7.52	0.04	1.92	0.09	0.28	1.64	6.97	0.71	1.08	1.60	7.36	7.53
42	5.68	0.06	2.18	0.17	0.32	1.32	6.60	0.65	1.42	1.85	7.01	7.25
45	4.15	0.10	2.64	0.14	0.37	1.00	5.78	0.55	1.84	2.15	6.37	6.72
48	3.05	0.15	2.48	0.14	0.51	1.16	5.43	0.61	2.39	2.66	6.02	6.59
52	2.05	0.06	1.88	0.10	0.56	3.14	5.53	0.95	2.42	2.92	6.52	7.15
56	1.33	0.15	1.23	0.08	0.87	2.11	5.44	1.59	4.32	5.10	5.61	7.58
60	0.96	0.12	1.43	0.34	1.40	2.45	5.76	2.75	7.28	8.42	5.73	10.19
64	0.63	0.21	1.53	0.58	2.54	6.24	7.27	3.90	8.58	11.79	7.12	13.78
68	0.37	0.22	1.44	0.68	4.87	8.06	6.46	4.84	14.66	17.95	7.02	19.27

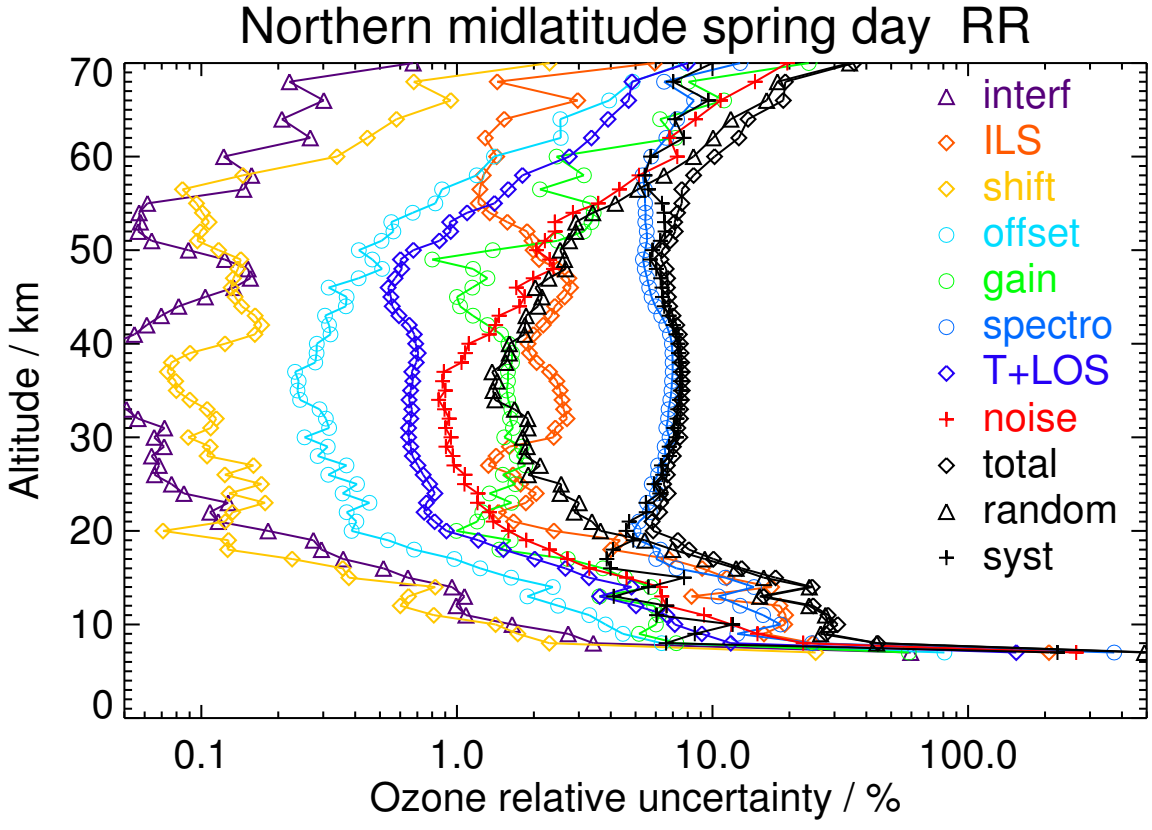

Figure S45. V8R_O3_261 Northern midlatitude spring day

Table S47. Ozone error budget for Northern midlatitude spring night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.22	3.32	18.27	2.05	6.05	7.18	19.43	11.43	18.03	32.16	15.37	35.64
12	0.53	0.97	13.67	0.54	2.34	5.52	10.09	4.79	7.12	19.55	4.12	19.98
15	1.01	0.50	8.16	0.31	1.19	3.33	7.51	2.65	3.72	10.65	6.58	12.52
18	2.16	0.26	3.55	0.11	0.57	1.49	4.84	1.21	2.00	4.98	4.39	6.64
21	3.73	0.12	1.70	0.11	0.39	1.26	5.42	0.79	1.37	3.19	5.13	6.04
24	5.06	0.09	1.82	0.14	0.33	1.34	6.05	0.74	1.16	2.13	6.26	6.61
27	6.64	0.07	1.46	0.12	0.30	1.67	6.70	0.68	0.99	1.79	6.94	7.17
30	7.86	0.07	2.79	0.10	0.24	1.42	7.05	0.66	0.96	1.54	7.65	7.80
33	8.64	0.04	2.77	0.10	0.27	1.60	6.94	0.65	0.89	1.35	7.61	7.73
36	8.68	0.04	2.38	0.08	0.24	1.61	7.03	0.68	0.92	1.40	7.56	7.69
39	7.44	0.04	1.75	0.11	0.30	1.72	7.03	0.70	1.12	1.67	7.39	7.57
42	5.63	0.06	1.94	0.19	0.41	1.57	6.55	0.65	1.46	1.96	6.93	7.21
45	4.16	0.10	2.26	0.16	0.42	1.16	5.52	0.53	1.92	2.26	6.00	6.41
48	3.22	0.15	2.46	0.13	0.48	1.36	5.14	0.57	2.29	2.52	5.82	6.34
52	2.31	0.05	1.84	0.09	0.58	2.71	5.19	0.93	2.30	2.74	6.05	6.64
56	1.64	0.12	1.27	0.07	0.85	1.97	4.85	1.44	4.10	4.62	5.22	6.97
60	1.41	0.11	1.42	0.10	1.40	1.78	4.26	2.10	6.69	7.41	4.43	8.63
64	1.41	0.18	0.96	0.29	2.09	3.10	4.34	3.36	5.86	7.73	4.44	8.91
68	1.34	0.09	0.95	0.40	2.57	1.86	4.87	4.50	7.65	9.51	4.81	10.66

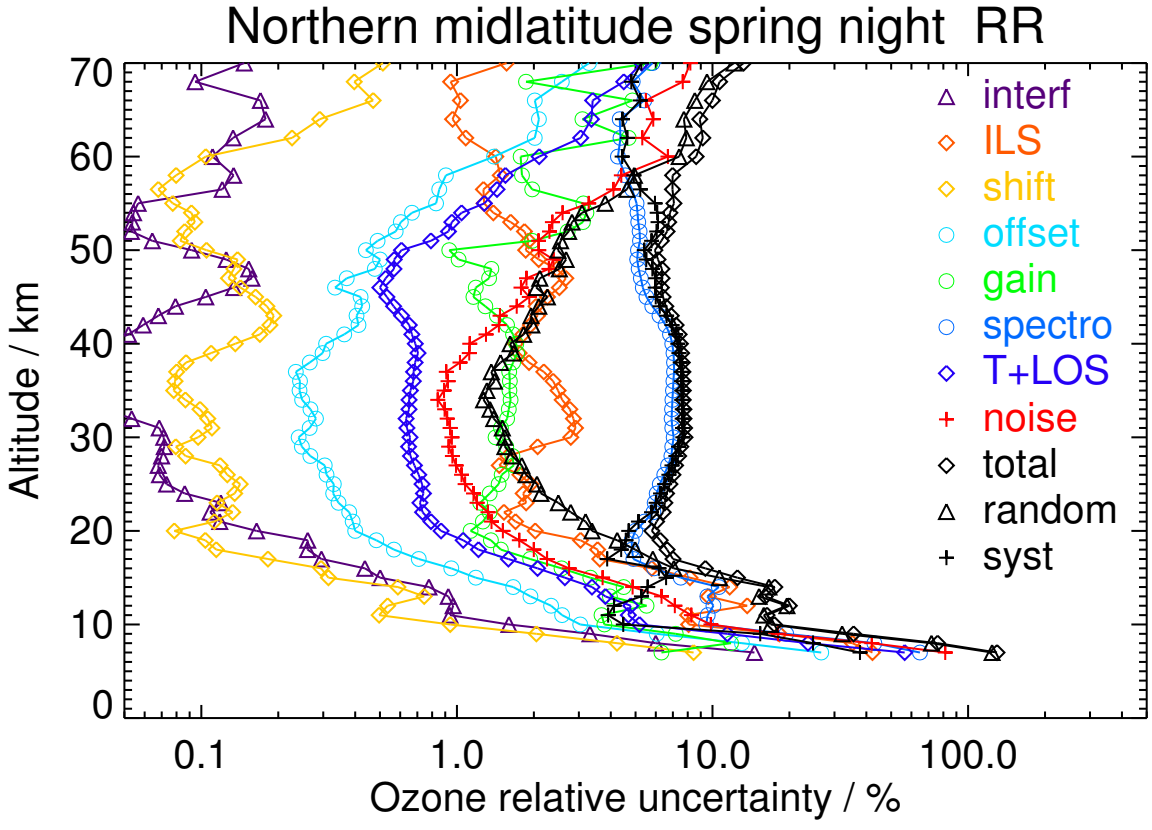

Figure S46. V8R_O3_261 Northern midlatitude spring night

Table S48. Ozone error budget for Northern midlatitude summer day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.10	4.80	16.99	1.20	4.17	4.99	20.86	9.83	18.52	30.91	16.58	35.07
12	0.14	2.09	40.99	1.97	5.89	12.32	15.06	10.23	18.23	49.79	7.71	50.39
15	0.17	2.14	96.51	3.81	11.47	26.24	34.68	17.99	19.83	>100	19.55	>100
18	0.57	0.95	20.11	0.93	3.10	7.68	7.79	4.50	7.35	19.58	15.05	24.70
21	2.34	0.20	1.34	0.20	0.63	1.04	4.17	1.15	2.15	3.05	4.17	5.17
24	4.52	0.10	1.04	0.20	0.54	1.52	4.44	0.79	1.19	2.04	4.61	5.04
27	6.93	0.07	0.49	0.16	0.35	1.89	5.74	0.67	1.00	1.46	6.02	6.20
30	8.44	0.07	2.38	0.06	0.22	1.53	6.86	0.59	0.85	1.19	7.40	7.49
33	8.71	0.04	3.00	0.11	0.20	1.47	7.18	0.68	0.82	1.18	7.91	8.00
36	8.44	0.05	2.23	0.07	0.22	1.62	6.93	0.65	0.89	1.23	7.44	7.54
39	7.42	0.05	1.69	0.09	0.24	1.65	6.87	0.65	1.06	1.40	7.25	7.38
42	5.83	0.06	1.95	0.16	0.31	1.42	6.54	0.62	1.37	1.65	6.95	7.14
45	4.35	0.09	2.40	0.15	0.39	1.19	5.69	0.53	1.78	1.96	6.28	6.57
48	3.26	0.15	2.36	0.14	0.47	1.23	5.15	0.53	2.27	2.44	5.78	6.27
52	2.34	0.06	1.76	0.16	0.49	2.66	5.40	0.83	2.13	2.46	6.23	6.70
56	1.54	0.16	0.99	0.10	0.73	1.28	5.50	1.31	3.81	4.24	5.64	7.05
60	1.14	0.16	1.22	0.30	1.31	2.18	5.87	2.24	6.96	7.67	6.10	9.80
64	0.76	0.14	0.53	0.47	2.13	2.96	7.30	3.69	7.99	9.47	7.42	12.03
68	0.41	0.13	2.24	0.49	4.69	3.34	7.33	4.87	15.56	17.52	7.15	18.92

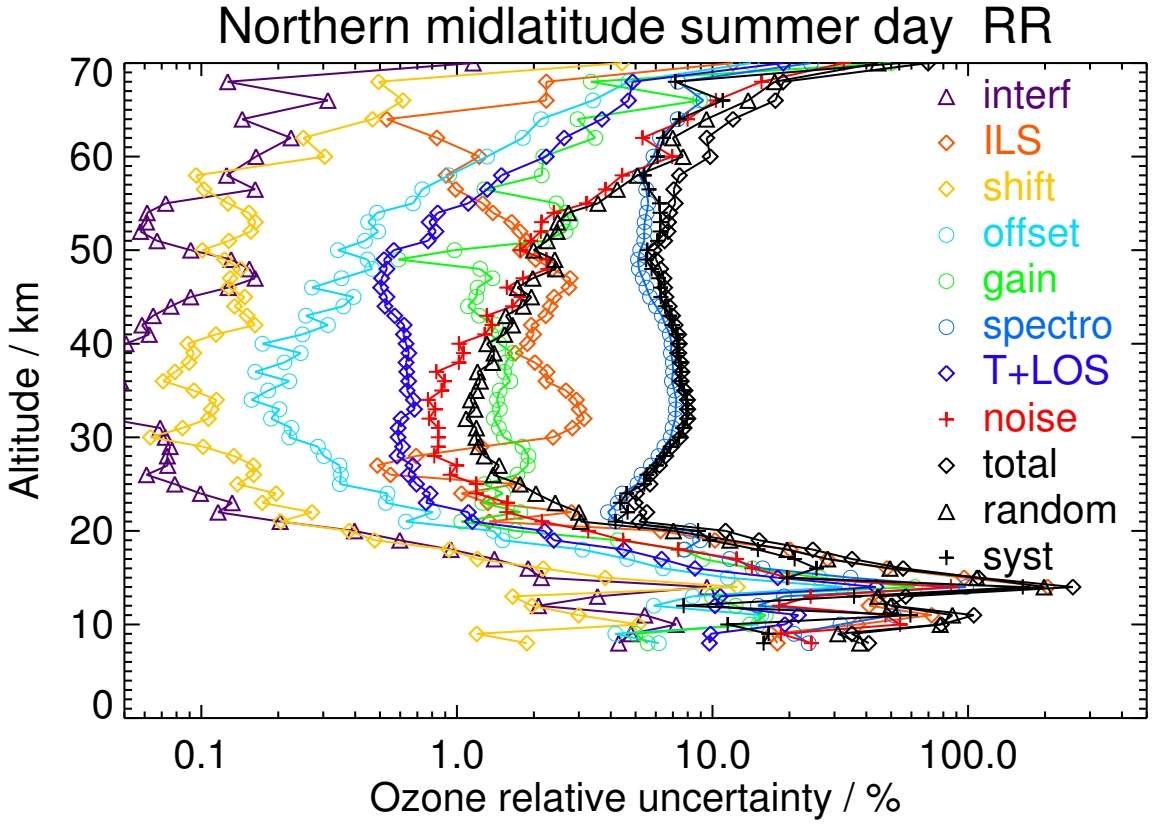

Figure S47. V8R_O3_261 Northern midlatitude summer day

Table S49. Ozone error budget for Northern midlatitude summer night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.12	4.07	18.66	1.73	6.76	5.21	31.06	11.21	24.23	43.28	15.66	46.02
12	0.16	2.46	49.72	1.75	6.68	15.42	22.46	12.38	20.52	61.56	7.28	61.99
15	0.24	1.72	64.82	2.44	7.32	21.59	17.21	12.02	14.81	66.82	30.42	73.42
18	0.77	0.69	10.32	0.44	1.55	4.07	5.82	2.58	5.34	12.10	6.98	13.97
21	2.36	0.18	1.45	0.19	0.61	1.26	4.04	1.09	2.09	2.96	4.16	5.10
24	4.43	0.10	1.60	0.16	0.47	1.45	4.53	0.82	1.27	2.54	4.61	5.27
27	6.73	0.07	0.51	0.15	0.35	1.91	5.51	0.68	0.99	1.51	5.79	5.99
30	8.27	0.07	2.22	0.06	0.23	1.52	6.59	0.60	0.87	1.29	7.09	7.20
33	8.61	0.05	2.87	0.11	0.23	1.56	6.85	0.66	0.87	1.34	7.55	7.67
36	8.36	0.05	2.39	0.09	0.21	1.59	6.77	0.65	0.92	1.30	7.32	7.44
39	7.37	0.04	1.69	0.09	0.26	1.74	6.65	0.67	1.10	1.49	7.04	7.20
42	5.70	0.06	2.07	0.11	0.33	1.41	6.32	0.61	1.41	1.68	6.77	6.98
45	4.27	0.10	2.33	0.16	0.40	1.20	5.26	0.49	1.82	2.04	5.84	6.19
48	3.34	0.15	2.36	0.12	0.44	1.36	4.69	0.48	2.19	2.36	5.39	5.89
52	2.58	0.06	1.71	0.09	0.50	2.63	5.07	0.83	2.04	2.35	5.92	6.37
56	1.85	0.12	1.20	0.06	0.71	1.44	5.18	1.22	3.56	3.93	5.44	6.71
60	1.49	0.13	1.24	0.10	1.23	0.74	4.89	1.80	6.48	6.93	4.97	8.53
64	1.37	0.22	1.22	0.31	1.91	1.80	5.29	3.21	6.17	7.46	5.41	9.21
68	1.22	0.18	1.32	0.44	3.15	2.94	6.17	4.49	9.51	11.25	6.53	13.01

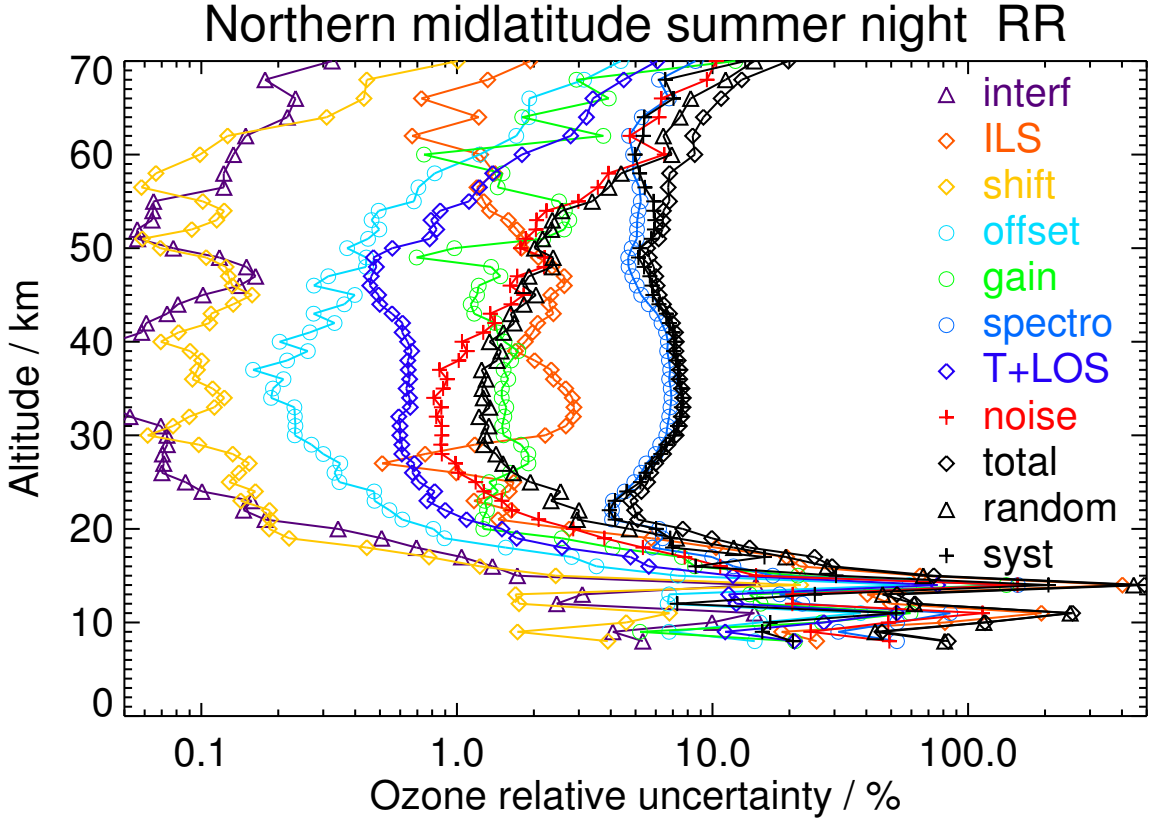

Figure S48. V8R_O3_261 Northern midlatitude summer night

Table S50. Ozone error budget for Northern midlatitude autumn day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.05	6.33	50.64	3.00	9.64	13.43	50.42	22.86	39.53	81.27	30.14	86.68
12	0.18	1.62	66.71	3.19	7.56	18.93	31.18	15.95	16.81	59.28	53.60	79.92
15	0.21	1.52	64.75	2.71	7.65	19.01	33.28	13.20	14.54	73.19	27.53	78.20
18	0.79	0.56	6.72	0.33	1.28	2.49	6.58	2.24	4.86	9.65	5.67	11.20
21	2.39	0.18	1.73	0.19	0.60	1.12	4.18	1.05	2.07	3.60	3.82	5.25
24	4.47	0.11	1.44	0.22	0.55	1.54	4.33	0.84	1.18	2.52	4.40	5.07
27	6.50	0.07	0.84	0.13	0.32	1.75	6.34	0.73	1.09	1.59	6.58	6.77
30	7.47	0.07	2.37	0.09	0.24	1.50	7.09	0.66	0.96	1.47	7.58	7.72
33	7.97	0.03	2.83	0.09	0.23	1.46	7.30	0.70	0.95	1.50	7.91	8.05
36	8.08	0.04	2.09	0.07	0.26	1.58	6.97	0.66	1.02	1.41	7.41	7.55
39	7.57	0.04	1.54	0.11	0.30	1.64	6.78	0.66	1.17	1.49	7.12	7.27
42	6.36	0.05	2.01	0.16	0.40	1.38	6.51	0.61	1.43	1.73	6.92	7.13
45	4.74	0.09	2.20	0.19	0.42	1.22	6.10	0.57	1.85	2.08	6.57	6.90
48	3.41	0.13	2.52	0.12	0.50	1.20	6.03	0.67	2.43	2.65	6.62	7.13
52	2.19	0.05	1.76	0.08	0.61	2.88	5.98	1.08	2.63	3.03	6.82	7.46
56	1.32	0.12	1.21	0.09	0.96	2.30	5.90	1.96	5.07	5.69	6.30	8.49
60	0.90	0.13	1.70	0.29	1.60	1.97	6.43	3.20	8.84	9.90	6.42	11.80
64	0.58	0.09	0.74	0.24	2.62	2.84	6.38	3.83	9.50	11.09	6.18	12.70
68	0.34	0.10	1.38	0.32	5.43	2.70	6.37	4.33	17.78	19.37	6.26	20.35

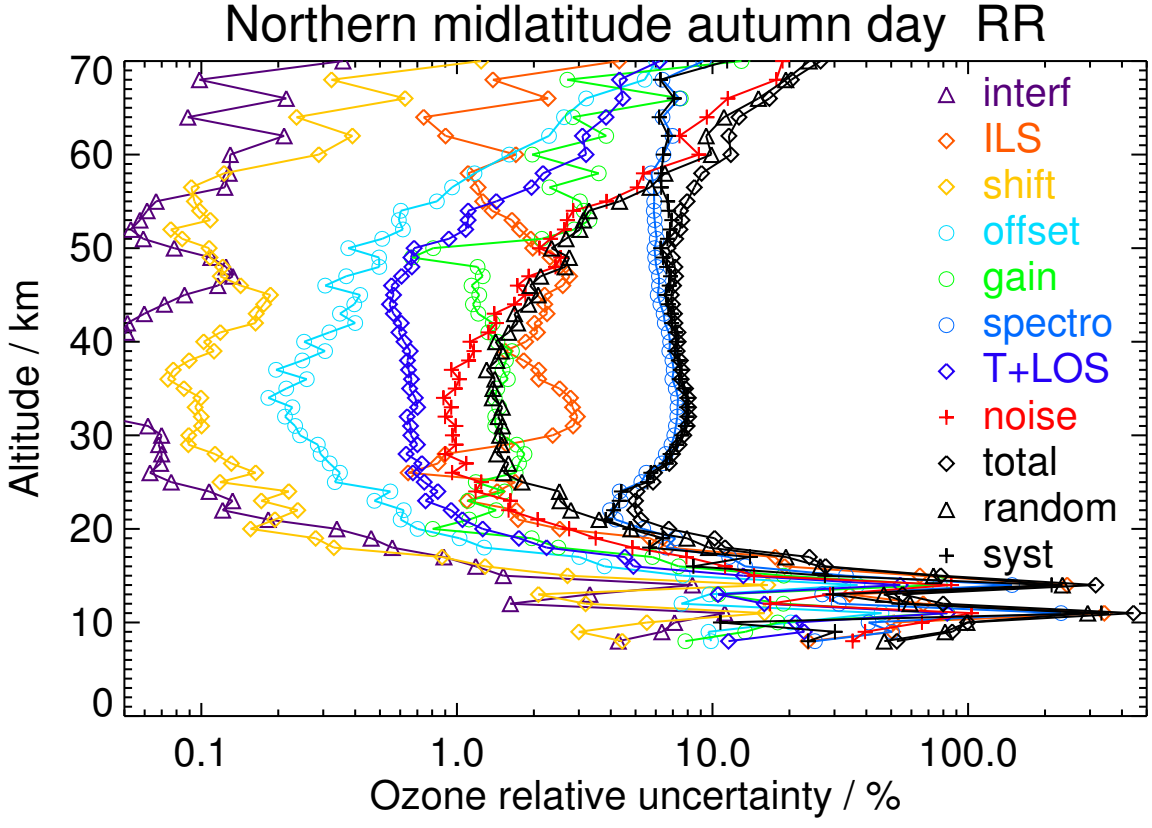

Figure S49. V8R_O3_261 Northern midlatitude autumn day

Table S51. Ozone error budget for Northern midlatitude autumn night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.05	8.46	72.28	3.73	14.38	23.30	42.97	25.22	44.36	>100	20.69	>100
12	0.16	2.25	75.84	3.58	9.77	21.12	39.64	18.51	21.53	92.65	10.28	93.22
15	0.25	1.67	43.33	1.97	6.00	15.29	20.79	10.41	14.05	52.82	10.11	53.78
18	0.91	0.56	6.99	0.36	1.36	3.24	6.54	2.29	4.39	9.96	5.45	11.36
21	2.45	0.17	1.85	0.19	0.57	1.20	4.07	0.98	2.02	3.41	3.90	5.18
24	4.41	0.11	1.78	0.21	0.53	1.55	4.82	0.84	1.24	2.85	4.82	5.60
27	6.22	0.07	1.13	0.13	0.32	1.70	6.69	0.72	1.10	1.71	6.92	7.13
30	7.12	0.07	2.56	0.10	0.25	1.50	7.29	0.66	1.01	1.72	7.78	7.97
33	7.78	0.04	2.81	0.09	0.25	1.51	7.20	0.68	0.98	1.62	7.80	7.97
36	8.11	0.04	2.27	0.08	0.25	1.57	7.09	0.66	1.01	1.47	7.57	7.71
39	7.54	0.04	1.77	0.11	0.31	1.66	7.04	0.67	1.17	1.59	7.41	7.58
42	6.12	0.06	2.10	0.17	0.39	1.38	6.78	0.62	1.46	1.79	7.20	7.42
45	4.54	0.09	2.19	0.19	0.43	1.25	5.99	0.56	1.91	2.18	6.45	6.81
48	3.33	0.14	2.44	0.13	0.49	1.34	5.62	0.62	2.41	2.62	6.24	6.77
52	2.34	0.05	1.78	0.07	0.62	2.67	5.41	0.99	2.48	2.84	6.25	6.87
56	1.62	0.12	1.28	0.06	0.90	1.82	4.86	1.51	4.42	4.85	5.25	7.15
60	1.44	0.13	1.58	0.10	1.36	1.21	4.41	2.14	7.19	7.73	4.66	9.03
64	1.26	0.18	0.84	0.26	2.28	2.53	4.66	3.63	6.67	8.12	5.08	9.58
68	1.23	0.09	1.16	0.36	2.89	1.21	4.75	4.63	8.80	10.48	4.79	11.52

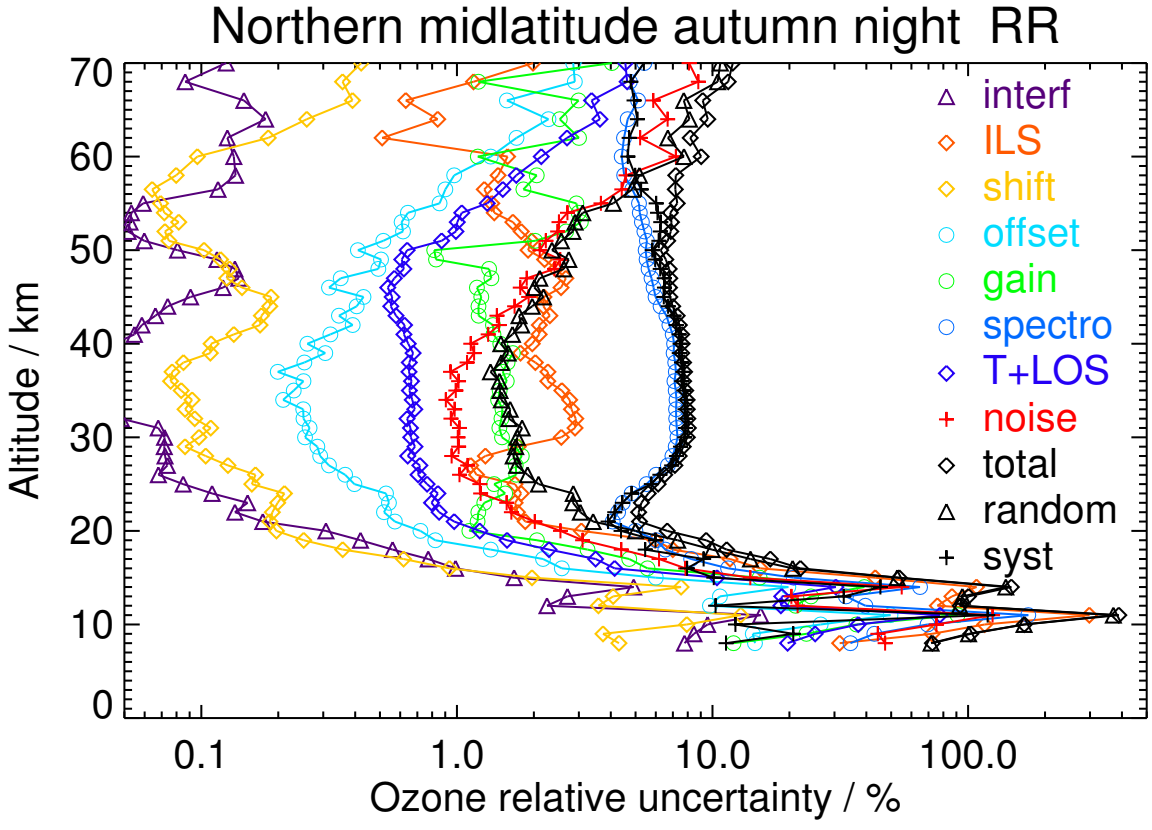

Figure S50. V8R_O3_261 Northern midlatitude autumn night

Table S52. Ozone error budget for Tropics day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	0.08	6.81	44.88	2.84	12.82	4.13	68.26	16.06	46.00	81.36	51.62	96.35
12	0.07	4.28	66.61	4.74	12.61	26.95	37.81	18.32	42.25	88.47	32.97	94.41
15	0.06	6.47	>100	10.12	25.75	70.13	69.00	44.59	73.94	>100	>100	>100
18	0.17	3.30	58.60	3.71	12.29	41.13	24.78	19.71	28.13	62.20	56.81	84.23
21	1.76	0.25	4.76	0.43	1.39	2.70	7.54	2.35	2.94	5.16	8.75	10.16
24	4.58	0.08	0.82	0.16	0.38	1.26	4.32	0.79	1.30	1.95	4.43	4.84
27	8.27	0.06	0.33	0.19	0.34	1.91	5.22	0.70	0.85	1.46	5.50	5.69
30	10.69	0.06	2.22	0.07	0.24	1.63	6.64	0.62	0.72	1.14	7.17	7.26
33	10.43	0.03	3.64	0.24	0.14	1.38	7.86	0.78	0.73	1.39	8.73	8.84
36	8.68	0.04	2.78	0.16	0.16	1.50	7.59	0.79	0.89	1.32	8.20	8.31
39	7.11	0.04	2.13	0.09	0.21	1.46	6.85	0.67	1.12	1.60	7.26	7.44
42	5.53	0.06	2.51	0.13	0.28	1.31	6.28	0.58	1.43	1.77	6.84	7.06
45	4.11	0.11	2.75	0.13	0.31	0.77	5.44	0.48	1.80	1.97	6.13	6.43
48	3.17	0.15	2.45	0.14	0.42	1.34	4.96	0.54	2.21	2.43	5.65	6.15
52	2.19	0.08	1.70	0.12	0.51	2.36	5.30	0.76	2.42	3.11	5.80	6.58
56	1.44	0.12	1.29	0.11	0.84	2.94	5.27	1.36	3.64	4.49	5.81	7.34
60	1.05	0.17	0.56	0.33	1.42	3.32	6.02	2.27	5.61	7.31	5.73	9.29
64	0.72	0.16	0.37	0.47	2.00	4.28	7.08	3.19	7.31	9.50	6.80	11.68
68	0.36	0.32	1.88	1.03	4.11	11.41	10.10	5.93	14.91	18.54	12.94	22.61

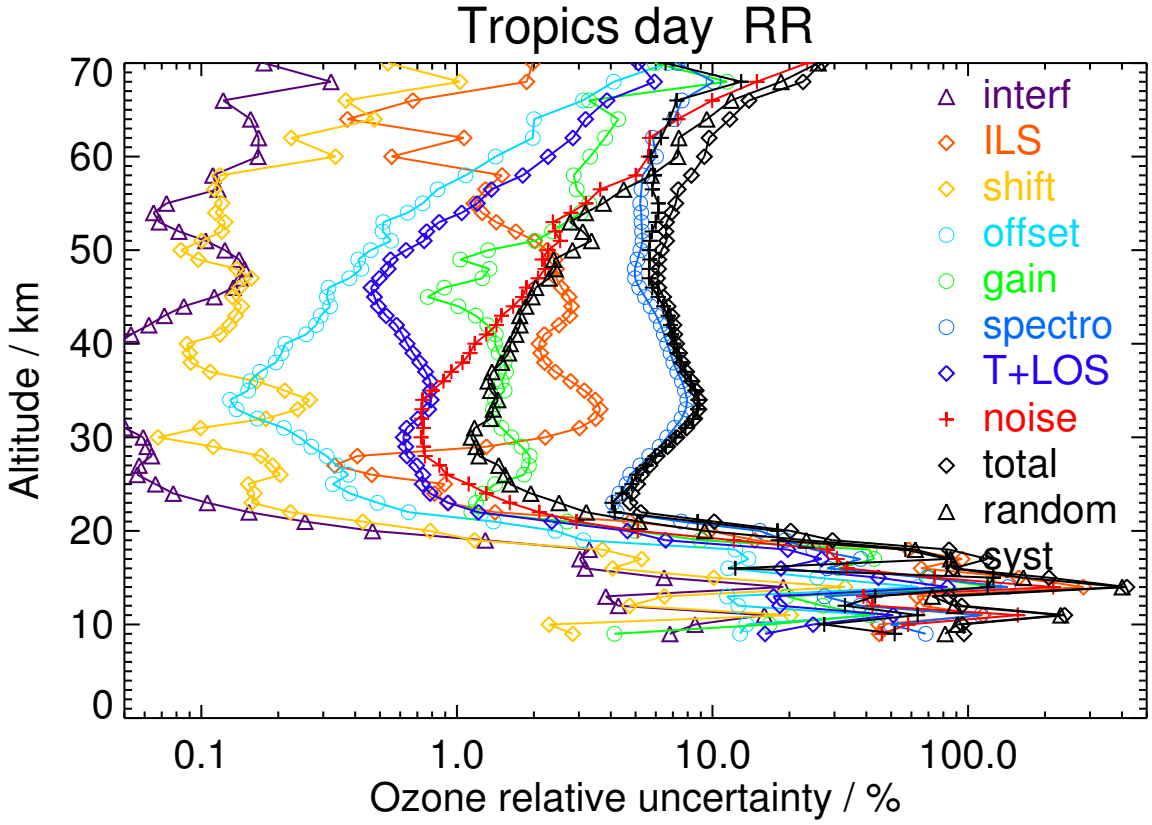

Figure S51. V8R_O3_261 Tropics day

Table S53. Ozone error budget for Tropics night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
9	-0.04	9.00	53.37	7.07	21.33	25.99	29.08	23.45	85.74	>100	19.88	>100
12	0.06	5.35	68.04	2.96	13.66	26.10	38.74	19.92	51.68	98.18	21.52	>100
15	0.07	5.25	>100	8.49	23.28	72.73	63.63	46.92	63.39	>100	>100	>100
18	0.21	2.63	46.24	2.45	8.29	28.49	18.09	14.89	23.10	53.03	36.08	64.14
21	1.64	0.29	4.50	0.33	1.24	2.13	7.04	2.40	3.33	5.63	7.83	9.64
24	4.71	0.07	0.54	0.15	0.40	1.32	4.14	0.83	1.30	1.84	4.28	4.66
27	8.29	0.06	0.33	0.15	0.29	1.79	5.32	0.69	0.87	1.34	5.58	5.74
30	10.67	0.06	2.09	0.05	0.25	1.67	6.53	0.64	0.76	1.19	7.03	7.13
33	10.42	0.03	3.47	0.24	0.15	1.49	7.81	0.77	0.77	1.33	8.65	8.75
36	8.67	0.03	2.74	0.18	0.15	1.54	7.65	0.81	0.93	1.36	8.25	8.36
39	7.14	0.04	2.10	0.05	0.21	1.53	6.91	0.71	1.19	1.55	7.35	7.51
42	5.45	0.06	2.68	0.09	0.29	1.26	6.32	0.58	1.53	1.79	6.95	7.18
45	4.14	0.12	2.71	0.12	0.31	0.81	5.31	0.45	1.94	2.07	6.00	6.35
48	3.27	0.14	2.47	0.12	0.42	1.43	4.81	0.54	2.37	2.55	5.57	6.12
52	2.38	0.08	1.63	0.11	0.53	2.53	5.06	0.82	2.45	3.09	5.67	6.46
56	1.75	0.11	1.44	0.06	0.75	2.16	4.76	1.32	3.35	3.93	5.25	6.55
60	1.46	0.11	0.76	0.10	1.12	1.78	4.77	1.80	5.03	5.68	4.90	7.50
64	1.39	0.20	1.30	0.23	1.34	2.24	4.93	2.90	5.17	6.48	5.09	8.24
68	1.18	0.21	0.54	0.57	2.34	5.71	7.01	4.57	8.36	10.36	8.45	13.37

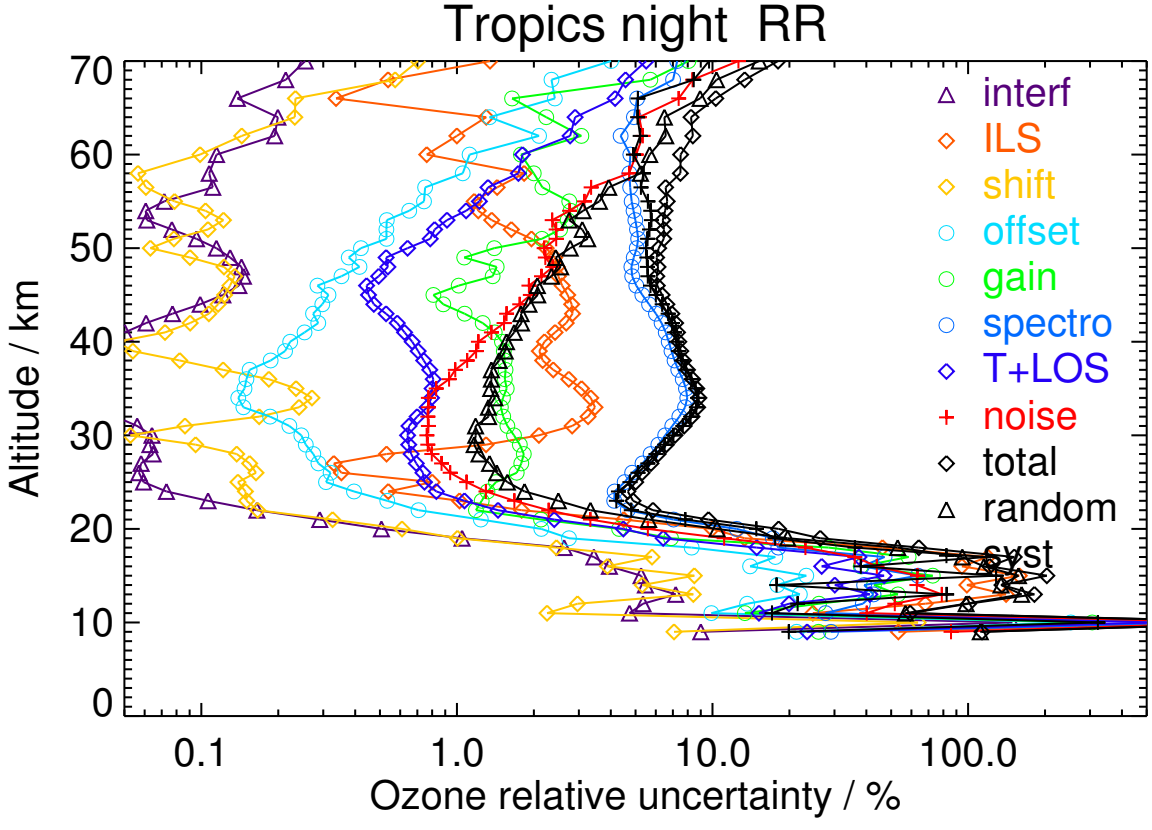

Figure S52. V8R_O3_261 Tropics night

Table S54. Ozone error budget for Southern midlatitude winter day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.03	20.05	83.68	10.03	31.23	41.79	>100	59.57	>100	>100	>100	>100
9	0.11	5.49	73.28	3.47	12.61	23.28	46.97	22.77	33.43	83.91	54.00	99.78
12	0.46	1.36	16.35	0.65	2.88	4.70	16.12	5.90	8.59	20.99	15.10	25.85
15	0.85	0.64	6.45	0.27	1.26	2.30	7.18	2.72	4.39	10.08	5.06	11.27
18	1.98	0.28	4.72	0.19	0.70	1.23	5.51	1.55	2.28	6.43	4.59	7.90
21	3.81	0.12	2.62	0.11	0.42	0.82	6.21	0.96	1.41	3.69	5.96	7.02
24	5.03	0.10	2.54	0.10	0.35	1.31	8.21	1.02	1.28	2.49	8.50	8.86
27	5.04	0.09	3.77	0.15	0.49	1.25	9.78	1.20	1.38	2.83	10.34	10.72
30	5.37	0.08	3.57	0.17	0.36	1.26	8.69	1.00	1.53	3.01	9.18	9.66
33	6.28	0.05	2.96	0.13	0.38	1.41	8.11	0.94	1.44	3.02	8.40	8.92
36	7.01	0.05	2.52	0.14	0.44	1.45	7.59	0.89	1.42	2.46	7.94	8.31
39	7.00	0.05	1.58	0.24	0.70	1.75	7.16	1.01	1.47	2.68	7.30	7.78
42	5.76	0.06	1.71	0.28	0.80	1.66	7.19	1.03	1.75	2.88	7.34	7.89
45	4.00	0.09	2.02	0.27	0.71	1.41	7.26	0.92	2.32	3.36	7.37	8.09
48	2.58	0.16	3.16	0.14	0.67	1.18	7.40	0.95	3.08	3.91	7.85	8.77
52	1.54	0.07	1.85	0.06	0.72	3.35	5.42	1.39	3.30	4.12	6.35	7.57
56	0.89	0.15	1.89	0.24	1.25	2.83	5.83	2.58	6.36	7.82	5.76	9.71
60	0.65	0.11	2.05	0.22	1.65	2.70	5.51	2.97	8.32	9.47	5.74	11.07
64	0.42	0.13	1.07	0.31	2.89	3.63	5.81	3.13	9.65	11.37	5.49	12.63
68	0.28	0.13	1.73	0.42	5.56	4.53	5.82	3.42	18.92	20.51	6.11	21.40

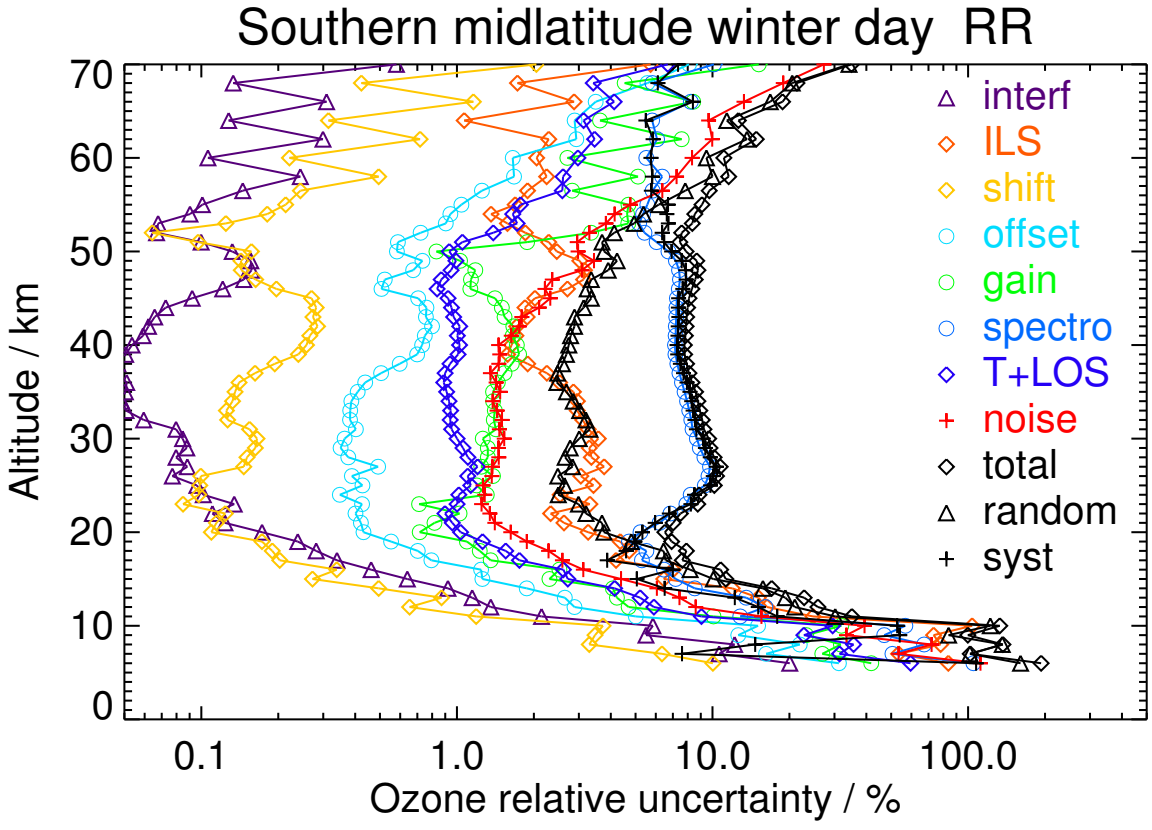

Figure S53. V8R_O3_261 Southern midlatitude winter day

Table S55. Ozone error budget for Southern midlatitude winter night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.06	10.40	55.30	5.23	14.29	23.76	60.55	27.60	51.65	78.73	69.71	>100
9	0.05	12.40	>100	7.38	22.96	36.71	>100	38.09	72.58	>100	79.45	>100
12	0.39	1.53	19.11	0.84	3.35	8.04	17.65	6.93	9.93	25.48	15.90	30.04
15	0.88	0.67	14.11	0.51	1.66	4.49	10.18	3.56	4.19	18.19	5.07	18.88
18	1.93	0.28	4.22	0.17	0.73	1.59	5.39	1.58	2.26	6.38	4.12	7.60
21	3.92	0.12	2.14	0.10	0.38	0.93	5.00	0.91	1.37	3.26	4.77	5.78
24	5.09	0.12	3.01	0.08	0.36	0.99	7.71	0.98	1.16	2.66	8.05	8.48
27	5.22	0.06	2.48	0.08	0.36	1.50	8.90	1.08	1.40	2.33	9.24	9.53
30	5.30	0.09	3.38	0.19	0.40	1.32	8.45	1.06	1.45	2.70	8.99	9.38
33	6.14	0.04	3.00	0.07	0.32	1.21	7.56	0.87	1.45	2.24	8.10	8.40
36	6.91	0.04	2.17	0.13	0.49	1.58	6.74	0.82	1.42	2.30	7.10	7.46
39	6.92	0.05	1.39	0.22	0.59	1.80	6.13	0.92	1.48	2.44	6.34	6.79
42	5.88	0.06	1.62	0.21	0.63	1.66	6.01	0.89	1.74	2.66	6.22	6.77
45	4.24	0.09	2.18	0.16	0.50	1.14	6.50	0.75	2.28	3.03	6.72	7.37
48	2.96	0.14	2.94	0.11	0.61	1.16	7.07	0.89	2.83	3.66	7.47	8.31
52	1.85	0.07	1.80	0.05	0.72	2.42	5.95	1.23	3.53	4.23	6.41	7.68
56	1.37	0.10	1.48	0.10	1.18	2.75	4.65	2.00	5.83	6.58	5.24	8.41
60	1.25	0.10	1.89	0.14	1.48	2.63	3.97	2.43	7.02	8.02	4.41	9.15
64	1.21	0.12	0.74	0.17	2.15	2.79	4.42	3.01	5.95	7.31	4.85	8.77
68	1.07	0.07	1.65	0.18	2.63	2.29	5.09	3.74	8.67	10.16	5.19	11.41

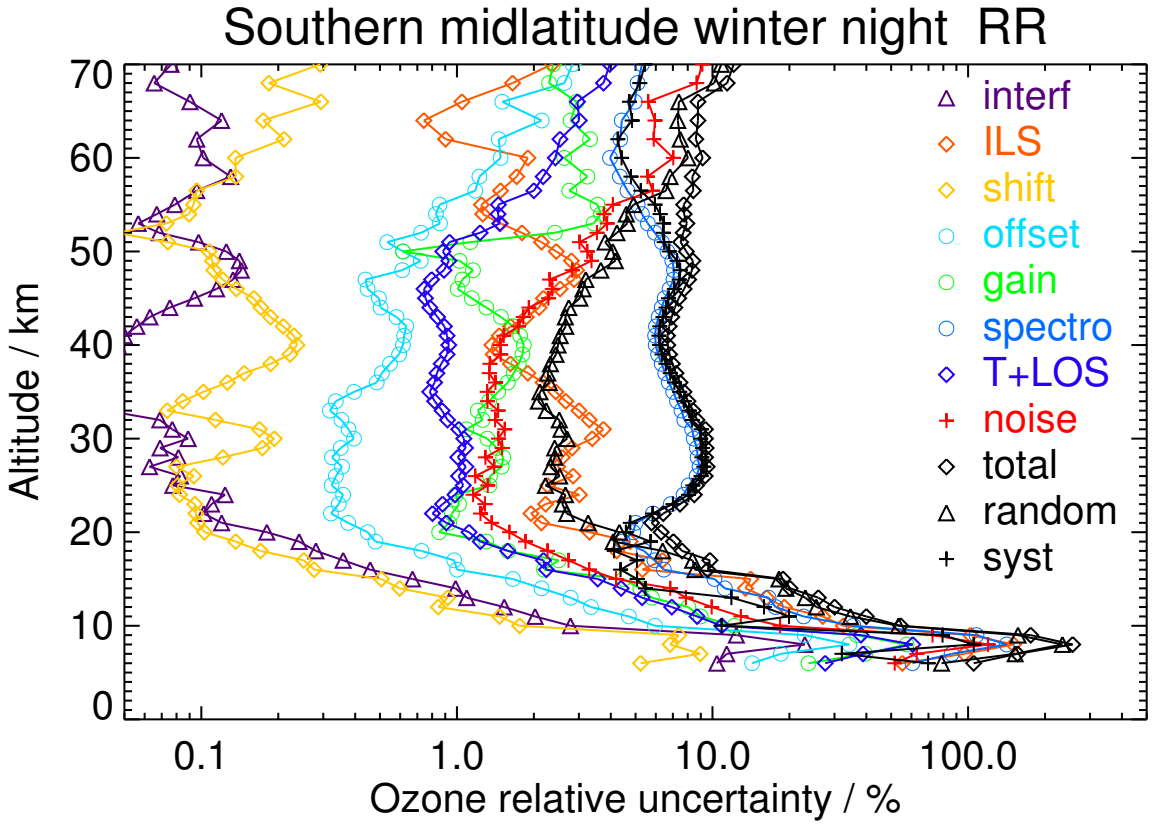

Figure S54. V8R_O3_261 Southern midlatitude winter night

Table S56. Ozone error budget for Southern midlatitude spring day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.09	9.64	37.10	5.27	12.83	17.11	44.05	20.02	45.27	65.91	44.73	79.65
9	0.12	6.47	49.21	3.60	9.57	16.66	48.51	14.23	30.06	72.34	32.73	79.40
12	0.35	1.89	20.15	0.91	3.16	7.85	16.91	5.82	10.31	27.34	12.68	30.13
15	0.65	1.08	10.76	0.42	1.82	4.93	11.89	3.52	5.69	17.46	5.13	18.19
18	1.96	0.29	3.00	0.14	0.60	1.19	5.33	1.28	2.25	5.23	4.32	6.78
21	3.82	0.12	1.35	0.13	0.38	1.41	4.69	0.75	1.37	3.09	4.34	5.33
24	5.49	0.11	2.10	0.14	0.35	1.46	5.05	0.71	1.04	2.59	5.20	5.81
27	7.44	0.10	0.73	0.14	0.29	1.85	5.89	0.63	0.90	1.59	6.12	6.32
30	8.24	0.09	2.92	0.11	0.24	1.35	7.09	0.64	0.88	1.79	7.66	7.87
33	8.26	0.05	2.97	0.12	0.22	1.46	7.30	0.71	0.88	1.55	7.94	8.09
36	8.09	0.06	2.27	0.09	0.24	1.54	6.93	0.66	0.99	1.65	7.37	7.55
39	7.58	0.05	1.48	0.13	0.30	1.79	6.74	0.64	1.13	1.83	7.02	7.26
42	6.13	0.06	2.12	0.13	0.39	1.53	6.72	0.60	1.44	2.06	7.09	7.39
45	4.50	0.10	1.99	0.20	0.45	1.31	5.99	0.55	1.91	2.47	6.30	6.76
48	3.28	0.14	2.53	0.14	0.47	1.38	5.77	0.62	2.27	2.67	6.35	6.89
52	2.15	0.06	1.83	0.09	0.55	2.62	5.64	0.93	2.40	2.82	6.41	7.00
56	1.40	0.11	1.22	0.08	0.87	2.17	5.49	1.67	4.48	4.99	5.92	7.74
60	0.98	0.11	1.28	0.20	1.45	1.86	5.40	2.54	7.37	8.13	5.58	9.86
64	0.67	0.16	0.87	0.25	2.58	4.42	6.45	3.55	7.57	9.05	7.52	11.77
68	0.34	0.16	1.93	0.54	4.95	5.19	6.90	4.36	15.81	18.19	6.39	19.28

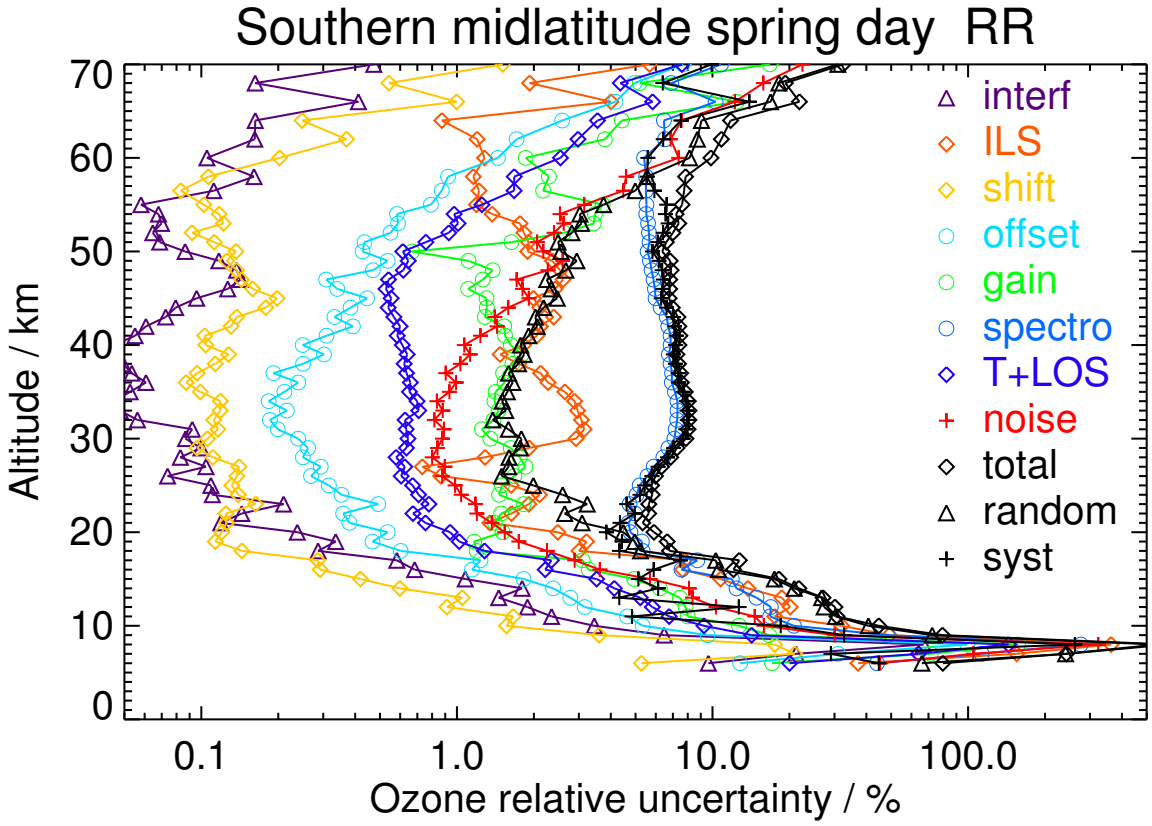

Figure S55. V8R_O3_261 Southern midlatitude spring day

Table S57. Ozone error budget for Southern midlatitude spring night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.03	19.89	>100	15.46	24.15	51.31	92.57	46.84	87.08	>100	>100	>100
9	0.07	8.59	>100	8.44	18.29	37.61	96.95	31.07	51.11	>100	95.35	>100
12	0.36	1.97	23.56	1.00	3.79	9.45	13.95	5.92	11.36	28.76	13.96	31.97
15	0.59	0.99	19.01	0.83	2.52	6.36	11.56	4.36	6.67	24.15	4.86	24.64
18	1.63	0.39	6.42	0.25	0.92	2.22	7.15	1.74	2.73	8.97	5.32	10.43
21	3.37	0.14	2.36	0.19	0.59	1.87	5.52	0.96	1.55	4.50	4.79	6.58
24	5.17	0.11	2.37	0.15	0.42	1.35	5.52	0.73	1.11	3.00	5.56	6.31
27	7.32	0.09	0.84	0.15	0.33	1.91	6.23	0.61	0.92	1.76	6.43	6.67
30	8.20	0.09	2.93	0.13	0.23	1.47	7.22	0.60	0.86	1.71	7.82	8.01
33	8.03	0.04	3.31	0.15	0.19	1.44	7.46	0.71	0.91	1.69	8.19	8.37
36	7.70	0.06	2.17	0.08	0.24	1.58	6.88	0.65	1.03	1.68	7.30	7.49
39	7.12	0.05	1.27	0.14	0.33	1.85	6.66	0.64	1.18	2.01	6.88	7.16
42	5.75	0.06	1.90	0.15	0.45	1.61	6.58	0.59	1.48	2.29	6.85	7.23
45	4.26	0.10	1.80	0.21	0.48	1.34	5.75	0.53	1.96	2.50	6.02	6.52
48	3.26	0.14	2.55	0.13	0.47	1.46	5.31	0.57	2.25	2.58	5.99	6.52
52	2.33	0.06	1.86	0.10	0.57	2.57	5.24	0.91	2.31	2.69	6.06	6.63
56	1.66	0.11	1.30	0.08	0.86	2.15	4.93	1.46	4.19	4.61	5.46	7.14
60	1.40	0.11	1.32	0.08	1.41	1.69	4.26	2.02	6.73	7.27	4.61	8.61
64	1.38	0.18	1.00	0.23	2.22	3.54	4.33	3.43	5.91	7.35	5.48	9.16
68	1.34	0.11	1.21	0.36	2.48	1.66	4.68	4.17	7.58	9.27	4.62	10.36

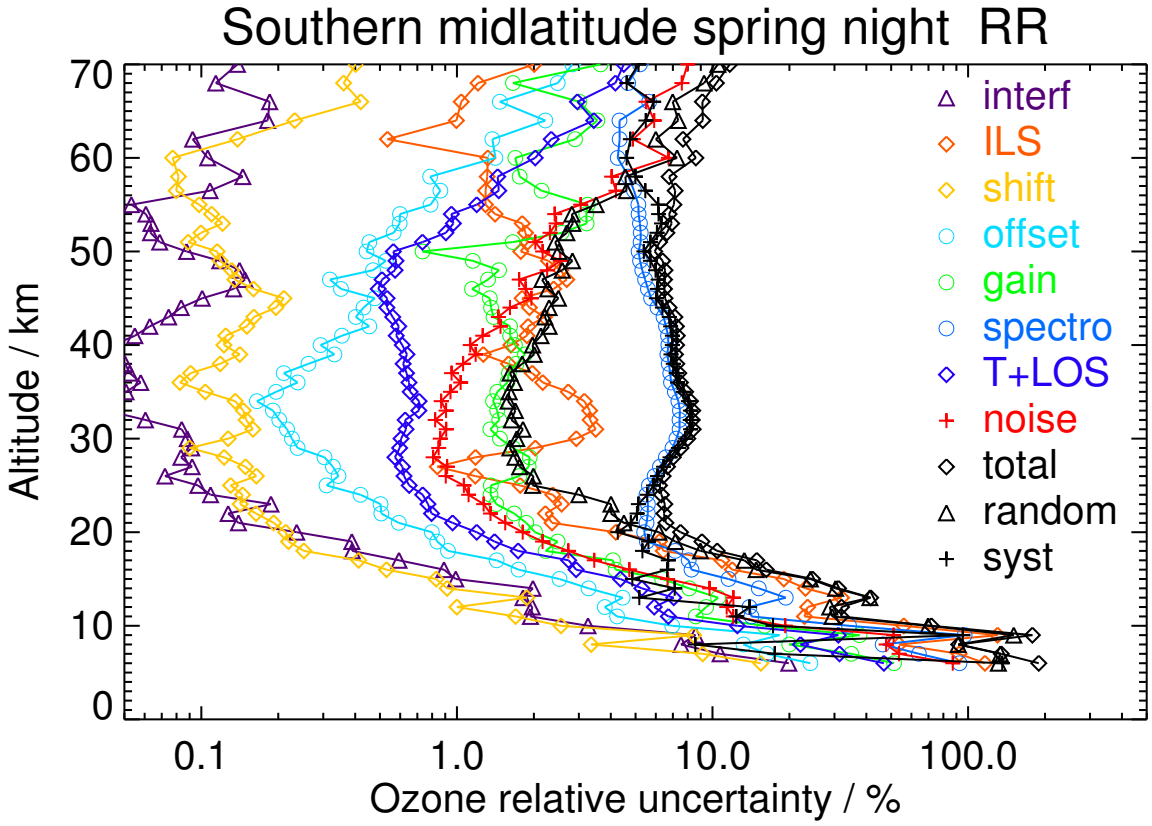

Figure S56. V8R_O3_261 Southern midlatitude spring night

Table S58. Ozone error budget for Southern midlatitude summer day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.03	20.24	>100	14.52	32.65	59.70	71.77	54.43	>100	>100	>100	>100
9	0.09	5.93	80.93	4.52	11.99	27.32	64.46	19.14	35.60	>100	24.13	>100
12	0.24	2.45	24.24	1.19	4.43	10.68	14.00	7.18	13.94	31.66	12.97	34.21
15	0.48	1.27	18.84	0.57	2.38	7.32	10.64	3.95	6.70	24.03	3.52	24.29
18	1.13	0.51	10.93	0.37	1.28	4.86	6.41	2.20	3.43	12.19	7.35	14.24
21	2.72	0.17	2.37	0.19	0.56	1.68	4.22	0.93	1.76	3.87	3.95	5.53
24	4.54	0.13	2.12	0.18	0.53	1.85	4.77	0.80	1.12	3.40	4.61	5.73
27	6.30	0.09	1.25	0.14	0.32	1.85	5.98	0.66	1.06	2.10	6.17	6.52
30	7.35	0.09	2.33	0.09	0.27	1.68	6.22	0.58	0.88	1.53	6.77	6.94
33	7.86	0.04	3.09	0.14	0.22	1.52	6.57	0.64	0.86	1.57	7.33	7.50
36	7.48	0.06	1.92	0.10	0.26	1.79	6.35	0.63	0.97	1.52	6.80	6.97
39	6.49	0.05	1.17	0.15	0.31	2.03	5.99	0.63	1.15	1.69	6.35	6.57
42	5.10	0.08	2.05	0.06	0.37	1.47	5.67	0.55	1.44	1.73	6.16	6.40
45	3.80	0.11	1.85	0.17	0.42	1.17	4.88	0.50	1.84	2.11	5.29	5.70
48	2.88	0.16	2.70	0.15	0.44	1.37	4.82	0.52	1.98	2.21	5.65	6.07
52	2.07	0.09	1.96	0.13	0.46	2.57	4.80	0.71	1.95	2.46	5.65	6.17
56	1.44	0.12	1.29	0.09	0.71	2.04	4.95	1.22	3.36	3.76	5.44	6.61
60	1.06	0.13	1.60	0.22	1.26	2.65	5.17	1.90	5.42	6.30	5.60	8.43
64	0.75	0.27	1.88	0.38	2.64	7.86	6.54	3.29	6.38	8.45	9.77	12.91
68	0.41	0.26	1.73	0.73	4.31	9.00	7.43	4.25	12.15	16.74	6.63	18.00

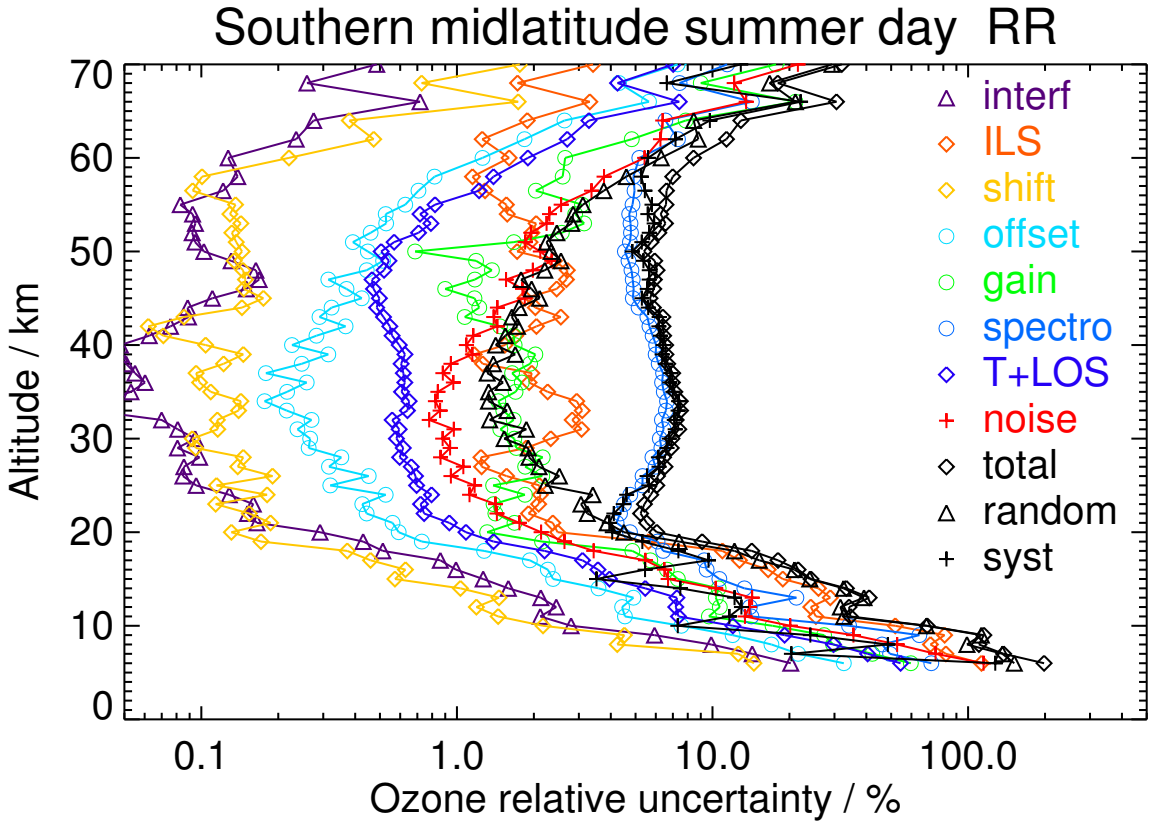

Figure S57. V8R_O3_261 Southern midlatitude summer day

Table S59. Ozone error budget for Southern midlatitude summer night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.02	31.76	>100	89.16	36.87	61.45	>100	73.34	>100	>100	>100	>100
9	0.14	3.62	35.27	8.15	7.25	11.43	25.75	10.46	23.75	52.24	10.66	53.32
12	0.29	2.19	28.70	1.03	4.21	11.16	13.67	6.09	12.03	32.98	15.88	36.61
15	0.49	1.46	26.09	1.07	2.94	8.13	10.25	4.53	7.43	29.74	7.40	30.65
18	1.17	0.51	12.10	0.38	1.50	4.32	6.51	2.21	3.41	13.29	7.07	15.05
21	2.71	0.18	2.16	0.17	0.45	1.00	4.50	0.81	1.77	3.32	4.35	5.47
24	4.60	0.12	3.05	0.21	0.74	2.47	4.83	0.95	1.10	3.55	5.37	6.44
27	6.23	0.08	1.66	0.12	0.28	1.67	6.52	0.65	1.06	1.95	6.78	7.05
30	7.32	0.10	2.14	0.09	0.34	1.89	6.30	0.60	0.88	1.79	6.77	7.00
33	7.68	0.04	3.45	0.17	0.20	1.43	6.83	0.63	0.87	1.53	7.72	7.87
36	7.41	0.06	1.97	0.09	0.26	1.76	6.41	0.63	0.98	1.58	6.86	7.04
39	6.38	0.05	1.26	0.15	0.32	1.94	6.19	0.64	1.16	1.79	6.50	6.74
42	4.91	0.08	2.12	0.05	0.36	1.37	5.75	0.54	1.47	1.73	6.25	6.48
45	3.73	0.12	1.95	0.15	0.42	1.01	4.77	0.46	1.85	2.10	5.20	5.61
48	2.99	0.17	2.66	0.14	0.43	1.51	4.42	0.47	1.94	2.14	5.34	5.76
52	2.29	0.09	1.99	0.12	0.47	2.43	4.66	0.70	1.91	2.39	5.50	6.00
56	1.70	0.11	1.38	0.09	0.72	2.29	4.78	1.18	3.18	3.60	5.39	6.48
60	1.39	0.10	1.55	0.11	1.21	1.71	4.38	1.68	5.10	5.63	4.81	7.40
64	1.35	0.21	0.89	0.20	2.00	5.00	4.52	3.02	4.60	6.32	6.39	8.98
68	1.21	0.14	0.89	0.33	2.43	3.37	4.97	4.10	6.89	9.18	4.78	10.35

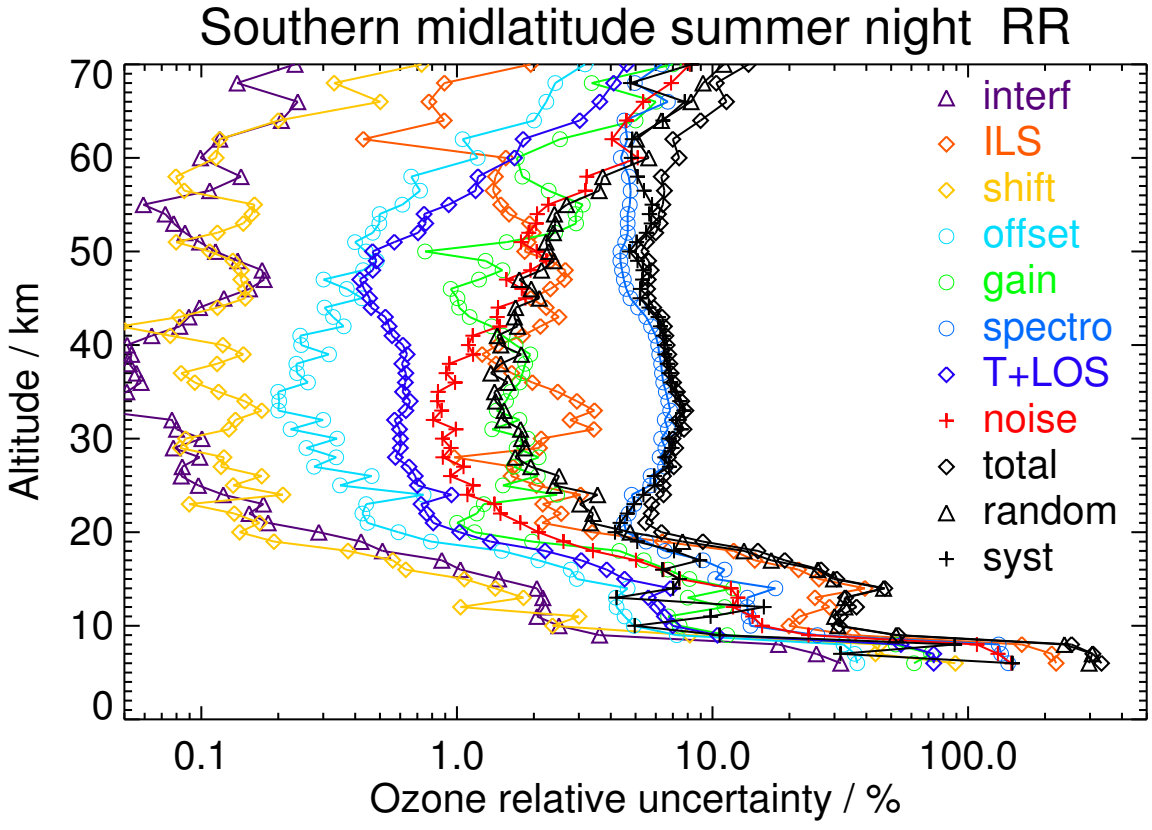

Figure S58. V8R_O3_261 Southern midlatitude summer night

Table S60. Ozone error budget for Southern midlatitude autumn day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.00	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
9	0.14	8.22	51.52	3.31	9.17	17.37	33.00	14.36	26.84	67.32	24.53	71.65
12	0.26	2.22	38.54	1.54	5.28	12.53	18.51	9.27	14.51	44.84	17.51	48.14
15	0.56	1.25	14.56	0.58	2.25	4.71	10.49	4.03	6.75	18.68	8.00	20.32
18	1.54	0.41	4.88	0.18	0.74	1.76	5.20	1.45	2.80	6.55	4.66	8.04
21	2.98	0.15	2.15	0.16	0.46	1.13	4.97	0.88	1.67	3.45	4.75	5.87
24	4.50	0.11	2.21	0.14	0.39	1.31	6.01	0.84	1.32	2.69	6.18	6.73
27	5.59	0.11	2.01	0.12	0.36	1.69	7.43	0.78	1.15	2.38	7.65	8.01
30	6.14	0.09	3.03	0.11	0.26	1.41	7.65	0.72	1.23	2.03	8.23	8.48
33	6.78	0.05	2.86	0.09	0.25	1.46	7.43	0.72	1.12	1.85	7.99	8.20
36	7.20	0.06	2.13	0.08	0.31	1.60	7.16	0.68	1.19	1.70	7.58	7.77
39	7.09	0.06	1.66	0.12	0.35	1.62	7.04	0.68	1.32	1.79	7.35	7.57
42	6.10	0.07	1.80	0.16	0.47	1.43	6.82	0.65	1.59	1.98	7.15	7.42
45	4.63	0.09	1.65	0.20	0.49	1.35	6.33	0.64	2.04	2.39	6.62	7.04
48	3.41	0.12	2.31	0.13	0.51	1.27	6.43	0.74	2.56	2.83	6.91	7.47
52	2.04	0.06	1.88	0.04	0.67	2.88	6.44	1.28	3.02	3.49	7.23	8.03
56	1.17	0.11	1.40	0.13	1.15	2.56	5.88	2.46	6.12	6.92	6.33	9.38
60	0.75	0.10	1.80	0.19	1.84	2.82	6.02	3.36	9.26	10.41	6.29	12.16
64	0.52	0.12	0.63	0.21	2.97	3.41	5.53	3.52	9.30	10.85	5.73	12.27
68	0.34	0.08	1.51	0.27	4.74	2.15	6.03	3.48	15.70	17.01	5.93	18.01

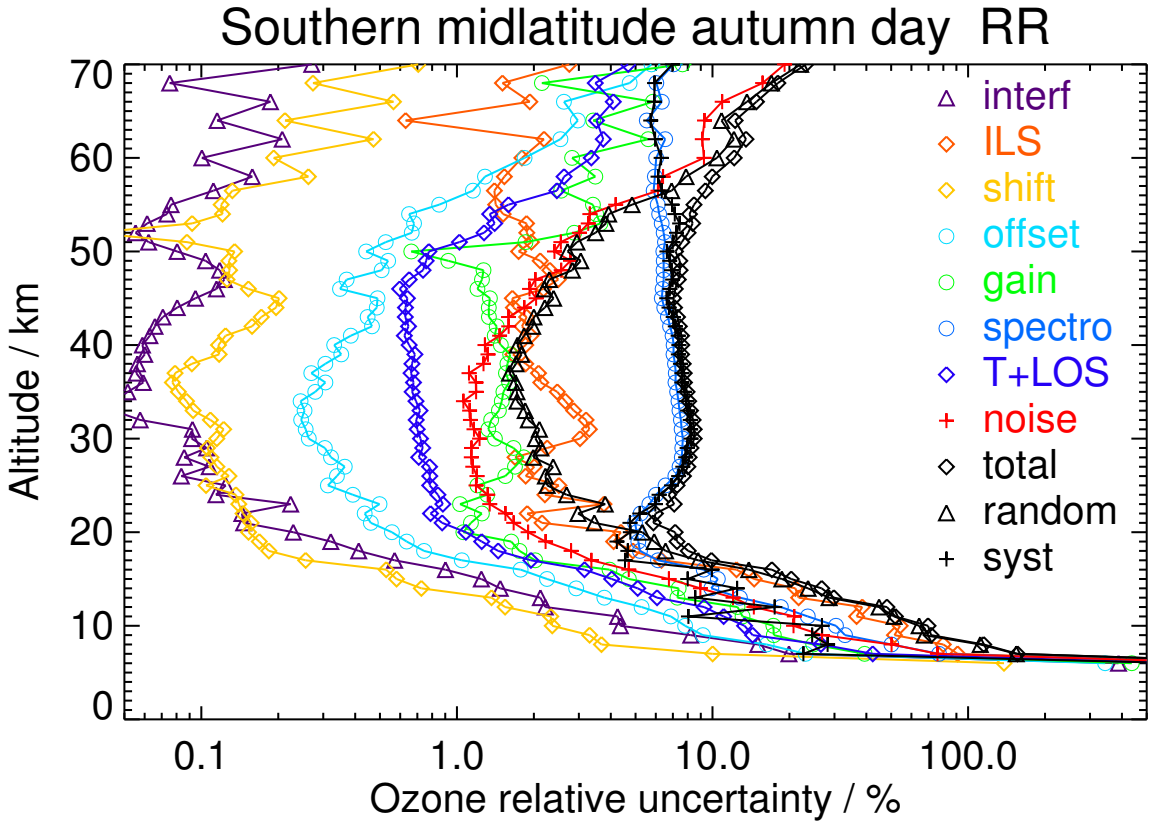

Figure S59. V8R_O3_261 Southern midlatitude autumn day

Table S61. Ozone error budget for Southern midlatitude autumn night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.05	12.88	86.79	7.46	16.87	30.32	78.70	33.01	61.73	96.45	>100	>100
9	0.15	3.91	47.30	3.09	7.56	12.97	32.61	11.81	22.45	60.19	23.91	64.76
12	0.30	2.21	30.24	1.06	4.29	9.97	18.92	6.97	12.52	39.12	8.44	40.02
15	0.52	1.35	24.36	0.87	2.88	7.46	16.76	5.20	7.23	30.28	10.15	31.94
18	1.52	0.40	5.75	0.22	0.91	2.13	5.28	1.61	2.75	7.71	4.14	8.75
21	2.99	0.16	2.65	0.16	0.50	1.18	4.89	0.93	1.66	4.24	4.28	6.02
24	4.49	0.14	1.74	0.18	0.46	1.62	5.14	0.82	1.16	2.80	5.15	5.86
27	5.58	0.08	1.85	0.08	0.30	1.52	7.32	0.78	1.23	2.13	7.55	7.85
30	6.03	0.10	2.21	0.12	0.34	1.74	6.88	0.71	1.13	2.32	7.19	7.56
33	6.78	0.04	2.90	0.09	0.25	1.36	6.93	0.66	1.12	1.89	7.52	7.75
36	7.35	0.05	2.13	0.08	0.31	1.53	6.62	0.64	1.17	1.79	7.03	7.25
39	7.24	0.05	1.43	0.13	0.37	1.65	6.48	0.67	1.28	1.76	6.78	7.00
42	6.15	0.06	1.83	0.13	0.43	1.36	6.36	0.61	1.55	1.90	6.71	6.98
45	4.61	0.10	1.88	0.16	0.45	1.10	5.93	0.56	2.02	2.29	6.27	6.68
48	3.44	0.13	2.62	0.10	0.49	1.22	5.93	0.66	2.39	2.62	6.57	7.07
52	2.31	0.05	1.73	0.05	0.66	2.40	5.85	1.09	2.85	3.21	6.51	7.26
56	1.61	0.10	1.44	0.08	1.11	2.34	5.31	1.78	5.42	5.96	5.83	8.33
60	1.33	0.11	1.10	0.10	1.74	2.14	4.03	2.61	7.99	8.78	4.32	9.79
64	1.29	0.16	0.56	0.23	2.49	2.76	4.73	3.85	6.95	8.50	5.23	9.99
68	1.14	0.08	1.67	0.25	2.56	2.01	5.13	4.03	8.18	9.66	5.44	11.09

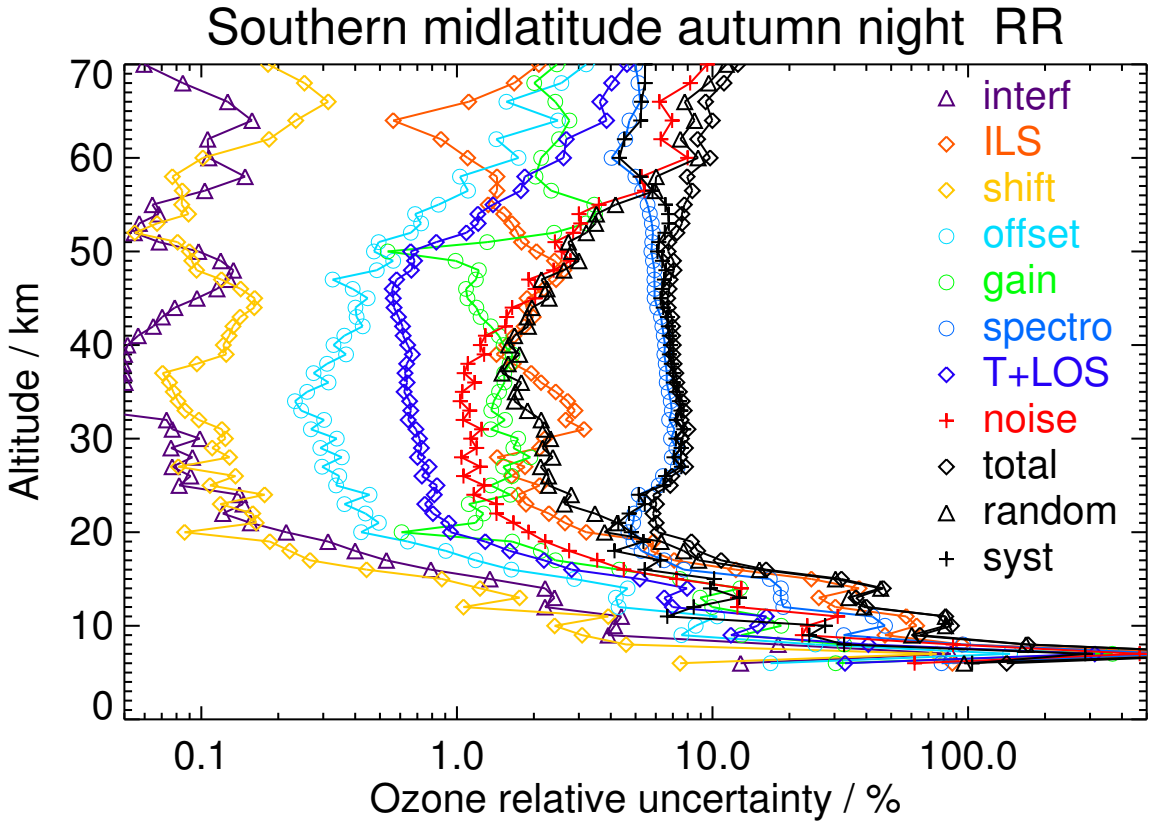

Figure S60. V8R_O3_261 Southern midlatitude autumn night

Table S62. Ozone error budget for Southern polar winter day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	-0.02	23.04	>100	20.54	36.33	90.04	>100	95.18	>100	>100	>100	>100
9	0.12	3.52	41.16	2.00	9.15	17.36	37.73	16.77	28.16	61.69	28.06	67.77
12	0.46	0.86	11.71	0.62	2.47	4.20	12.12	4.90	7.75	18.19	7.88	19.82
15	1.21	0.44	7.36	0.25	1.09	2.98	7.99	2.82	3.01	9.73	7.12	12.05
18	1.90	0.34	9.42	0.30	1.13	2.41	11.64	2.94	2.41	8.07	13.44	15.68
21	2.66	0.20	3.80	0.12	0.58	1.16	8.78	1.39	2.04	5.02	8.60	9.96
24	3.36	0.12	2.56	0.09	0.49	1.37	8.35	1.32	2.13	4.07	8.26	9.20
27	3.94	0.07	2.94	0.16	0.46	1.46	8.25	1.11	1.77	2.89	8.67	9.13
30	4.77	0.06	2.22	0.20	0.48	1.75	6.98	0.95	1.77	2.40	7.43	7.81
33	5.53	0.07	1.47	0.21	0.64	1.99	6.10	1.08	1.65	2.68	6.36	6.90
36	5.90	0.05	2.05	0.24	0.58	1.62	6.34	0.94	1.50	2.61	6.61	7.11
39	5.22	0.05	2.07	0.22	0.65	1.48	6.24	0.96	1.72	2.83	6.46	7.05
42	3.98	0.07	2.58	0.26	0.48	0.93	6.36	0.79	2.11	3.03	6.64	7.30
45	2.80	0.11	2.84	0.10	0.53	0.70	5.86	0.72	2.70	3.23	6.37	7.14
48	2.08	0.19	2.60	0.17	0.77	1.23	5.74	0.86	3.46	3.99	6.22	7.39
52	1.32	0.04	1.69	0.11	0.78	4.10	4.54	1.43	3.26	3.94	6.17	7.32
56	0.82	0.15	1.71	0.33	1.27	3.63	5.47	2.80	6.43	8.13	5.56	9.85
60	0.55	0.14	2.42	0.47	1.72	3.03	5.95	2.99	8.72	10.20	5.88	11.77
64	0.43	0.15	1.33	0.56	2.80	4.15	5.64	3.06	9.79	11.75	5.12	12.82
68	0.25	0.16	2.17	0.55	7.03	4.85	4.89	3.90	23.59	25.29	5.82	25.96

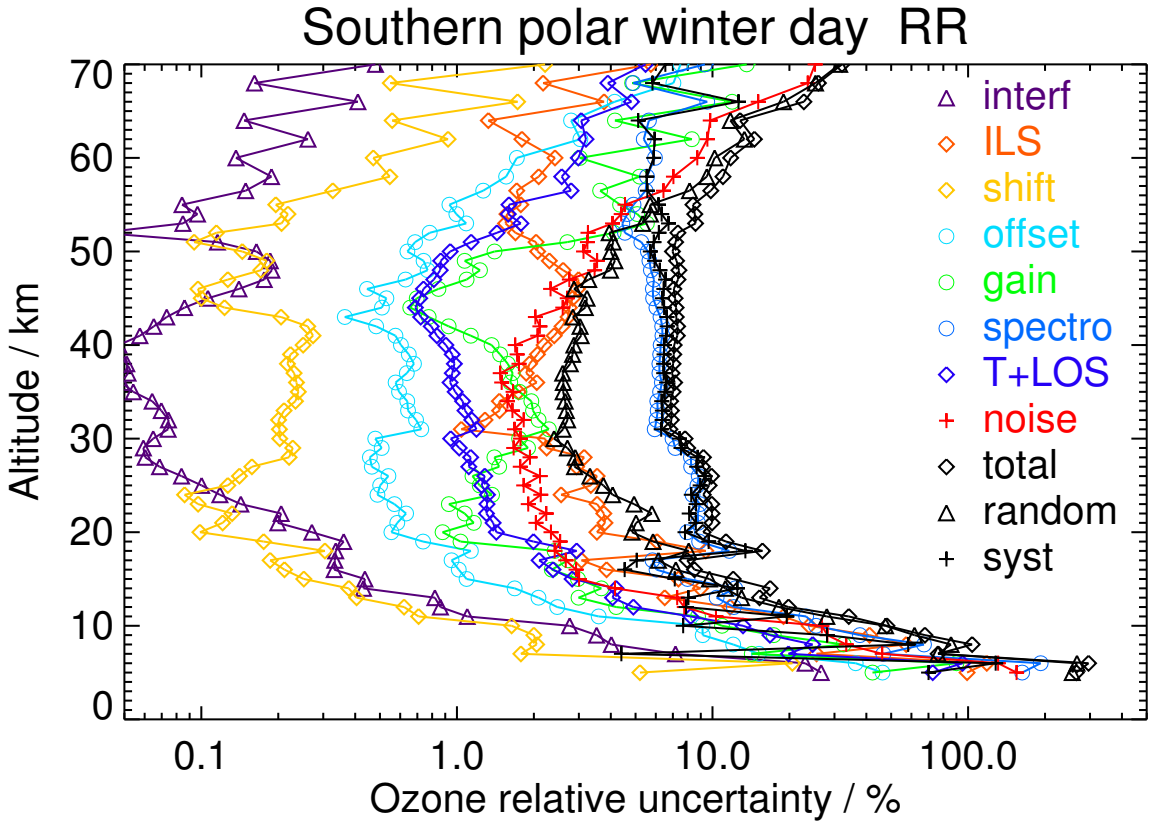

Figure S61. V8R_O3_261 Southern polar winter day

Table S63. Ozone error budget for Southern polar winter night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.05	5.42	38.98	5.26	10.64	25.54	52.08	26.03	36.25	73.86	39.89	83.94
9	0.16	2.56	52.01	1.89	7.04	22.01	41.57	17.21	19.81	66.54	35.19	75.27
12	0.37	0.99	20.54	1.09	3.59	8.68	25.09	8.57	9.81	35.33	7.94	36.21
15	1.27	0.40	5.51	0.22	0.94	2.79	5.89	2.53	3.11	8.52	4.18	9.49
18	2.37	0.28	5.17	0.21	0.66	1.32	7.16	1.88	2.06	6.46	6.81	9.39
21	3.10	0.19	4.04	0.15	0.56	1.16	8.14	1.44	1.84	5.07	8.01	9.47
24	3.53	0.10	3.25	0.13	0.49	1.22	8.37	1.37	2.07	3.87	8.58	9.41
27	4.22	0.07	3.18	0.15	0.50	1.49	7.99	1.18	1.70	3.46	8.29	8.98
30	5.07	0.06	3.26	0.22	0.43	1.44	8.09	1.00	1.67	2.81	8.61	9.06
33	5.54	0.10	2.18	0.22	0.64	2.11	6.55	1.16	1.70	3.57	6.63	7.53
36	5.63	0.06	2.36	0.27	0.52	1.69	6.70	1.00	1.63	3.09	6.91	7.57
39	4.87	0.07	2.15	0.25	0.65	1.63	6.20	1.04	1.90	3.34	6.30	7.13
42	3.96	0.08	2.09	0.29	0.55	1.15	5.94	0.84	2.22	3.19	6.07	6.86
45	2.92	0.10	2.33	0.14	0.56	0.99	5.65	0.76	2.78	3.49	5.90	6.85
48	2.14	0.19	2.78	0.16	0.78	1.42	5.81	0.90	3.44	4.03	6.36	7.53
52	1.54	0.05	1.57	0.05	0.80	3.19	4.56	1.20	3.37	3.92	5.62	6.85
56	1.27	0.12	1.43	0.11	1.02	2.33	4.24	1.80	5.15	5.91	4.62	7.50
60	1.28	0.11	1.73	0.14	1.45	2.14	3.73	2.31	7.41	8.17	4.14	9.16
64	1.40	0.12	1.19	0.18	2.13	2.49	3.99	2.98	5.96	7.28	4.41	8.52
68	1.73	0.07	1.17	0.21	2.44	1.85	3.99	3.90	7.34	8.94	3.99	9.79

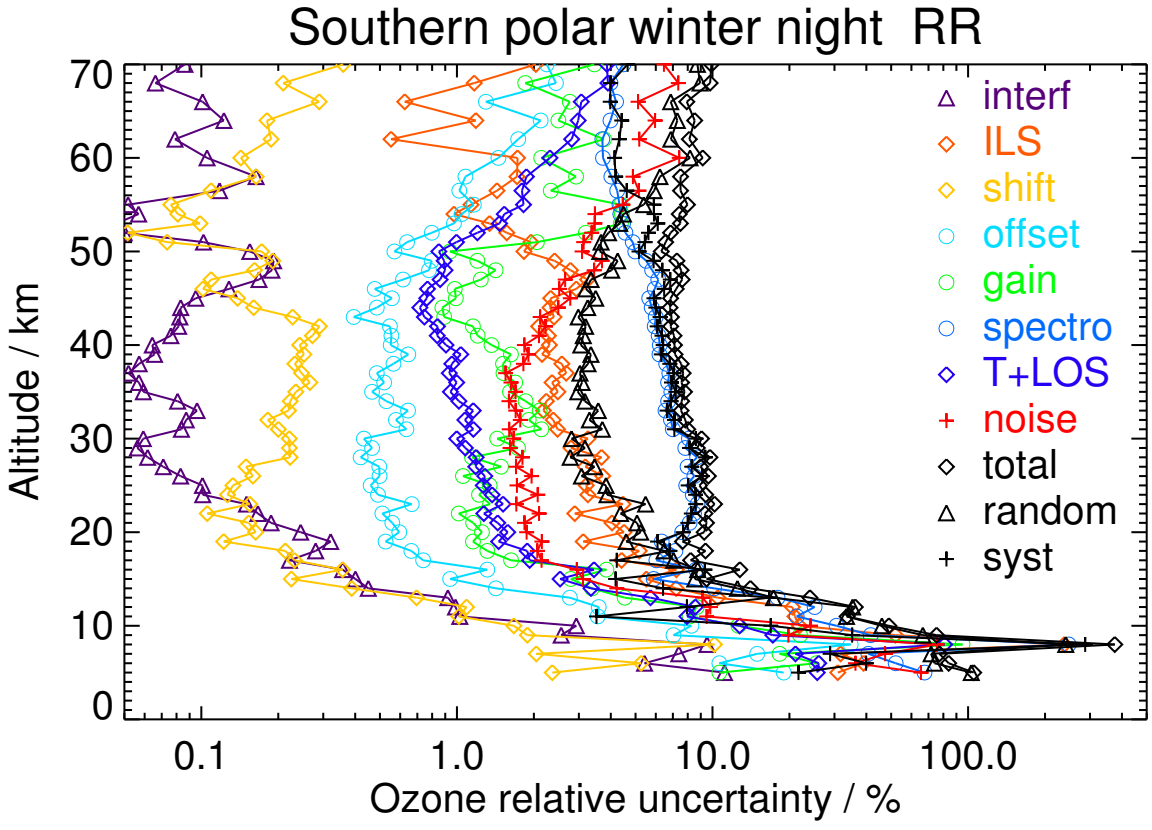

Figure S62. V8R_O3_261 Southern polar winter night

Table S64. Ozone error budget for Southern polar spring day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.01	50.95	>100	72.78	95.00	>100	>100	>100	>100	>100	>100	>100
9	0.16	5.83	47.45	2.91	6.52	16.74	42.17	14.94	21.73	69.35	16.81	71.35
12	0.29	1.53	28.44	1.03	3.43	10.76	28.20	8.20	11.64	43.46	6.94	44.01
15	0.54	1.77	33.51	0.92	3.72	12.55	31.47	8.24	6.62	47.78	10.84	48.99
18	1.71	0.48	6.39	0.22	1.04	3.89	7.19	2.07	2.41	10.10	4.14	10.91
21	3.19	0.19	3.85	0.14	0.57	2.23	6.23	1.14	1.54	6.70	4.22	7.91
24	5.25	0.09	2.20	0.13	0.38	1.59	5.27	0.80	1.20	3.12	5.26	6.11
27	6.61	0.09	1.05	0.14	0.27	1.77	5.68	0.55	0.84	1.89	5.83	6.13
30	7.22	0.07	2.70	0.10	0.22	1.48	6.53	0.57	1.00	2.05	7.02	7.31
33	6.84	0.11	3.32	0.21	0.21	1.29	6.44	0.59	1.06	2.24	7.12	7.46
36	6.43	0.06	3.33	0.13	0.17	1.31	6.62	0.61	0.96	2.15	7.31	7.62
39	5.68	0.06	2.50	0.07	0.24	1.53	6.42	0.59	1.17	2.82	6.61	7.18
42	4.95	0.07	2.04	0.17	0.29	1.43	5.98	0.56	1.44	2.98	5.96	6.67
45	4.10	0.09	2.47	0.15	0.39	1.41	5.35	0.50	1.77	2.71	5.74	6.35
48	3.20	0.16	2.27	0.16	0.48	1.33	5.20	0.56	2.27	2.85	5.62	6.30
52	2.12	0.05	2.05	0.07	0.52	3.07	5.44	0.92	2.21	2.64	6.50	7.02
56	1.24	0.16	1.17	0.13	0.78	2.23	5.61	1.70	4.33	5.00	5.92	7.75
60	0.93	0.18	1.66	0.41	1.25	1.76	5.65	2.47	6.77	7.57	5.86	9.57
64	0.61	0.10	0.59	0.33	2.02	2.70	6.79	3.13	7.31	8.91	6.46	11.00
68	0.35	0.22	0.88	0.47	4.53	6.39	5.79	4.67	14.03	16.09	7.47	17.74

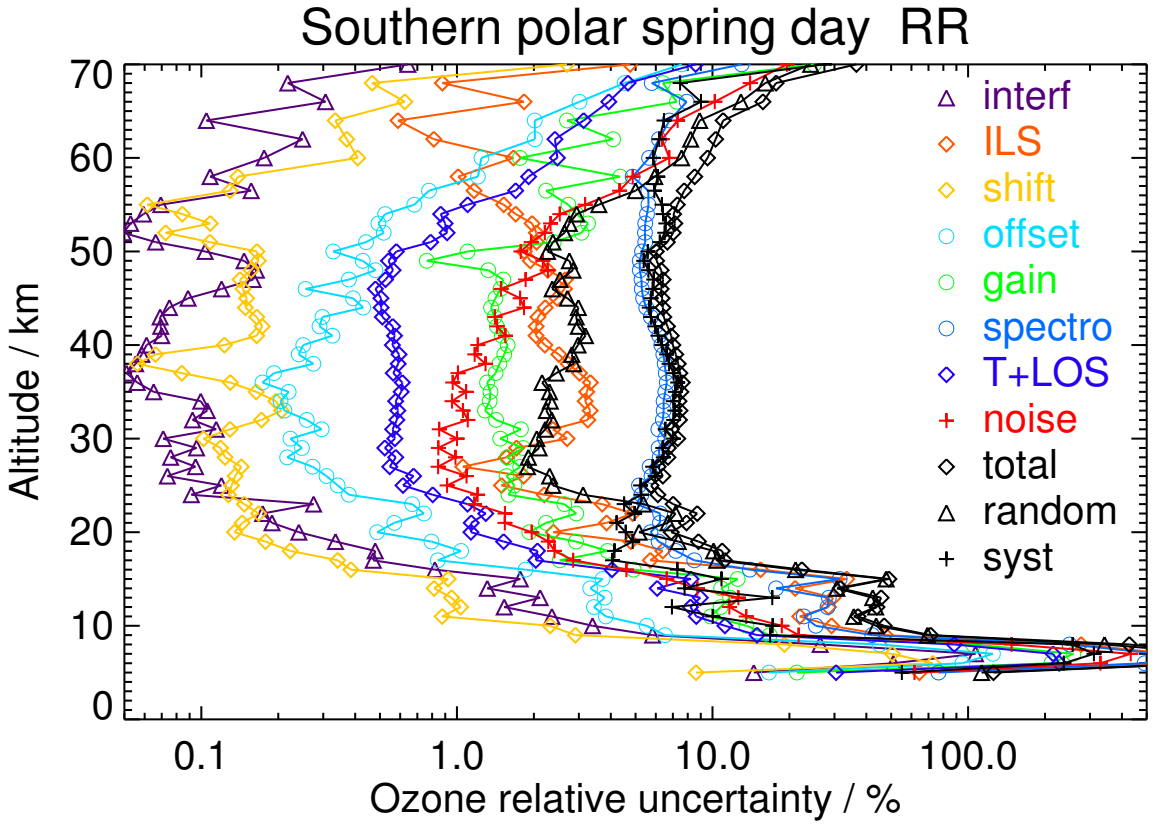

Figure S63. V8R_O3_261 Southern polar spring day

Table S65. Ozone error budget for Southern polar spring night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.06	7.09	71.59	9.45	13.68	33.97	39.16	26.35	46.72	91.74	50.99	>100
9	0.13	4.89	62.23	4.33	7.60	27.13	39.72	18.53	24.90	72.32	44.94	85.15
12	0.40	1.38	17.74	0.79	2.70	7.57	13.94	5.25	7.84	24.02	9.39	25.79
15	0.96	1.07	18.08	0.46	1.97	5.37	17.28	4.33	3.56	22.54	13.52	26.28
18	2.36	0.35	5.32	0.19	0.86	2.98	6.72	1.51	1.67	8.34	4.34	9.40
21	3.72	0.16	3.24	0.12	0.51	1.86	5.70	0.88	1.28	5.07	4.83	7.01
24	5.58	0.07	1.67	0.12	0.32	1.64	5.75	0.68	1.14	2.50	5.84	6.36
27	7.04	0.10	1.39	0.13	0.27	1.78	6.48	0.52	0.79	2.03	6.63	6.94
30	7.50	0.07	3.06	0.10	0.21	1.40	7.02	0.57	0.98	2.12	7.58	7.87
33	7.36	0.10	3.47	0.19	0.21	1.37	6.84	0.59	1.00	2.16	7.58	7.88
36	6.98	0.05	3.27	0.12	0.18	1.44	6.85	0.61	0.92	2.09	7.52	7.81
39	6.28	0.07	2.47	0.08	0.21	1.44	6.62	0.60	1.11	2.31	6.95	7.33
42	5.29	0.08	1.86	0.16	0.30	1.50	6.34	0.59	1.40	2.57	6.46	6.95
45	4.24	0.10	2.44	0.14	0.39	1.41	5.69	0.52	1.76	2.61	6.09	6.63
48	3.31	0.16	2.09	0.16	0.49	1.53	5.38	0.54	2.31	2.91	5.75	6.45
52	2.36	0.06	2.12	0.10	0.51	3.08	5.31	0.91	2.18	2.76	6.36	6.93
56	1.64	0.13	1.30	0.08	0.72	1.72	4.98	1.36	3.67	4.15	5.29	6.73
60	1.36	0.16	1.54	0.17	1.17	1.04	4.64	1.94	6.40	6.95	4.78	8.43
64	1.27	0.17	0.97	0.31	1.74	1.74	4.66	2.88	5.58	6.80	4.69	8.26
68	1.14	0.12	1.78	0.34	2.86	1.34	4.58	4.96	8.57	10.55	4.60	11.51

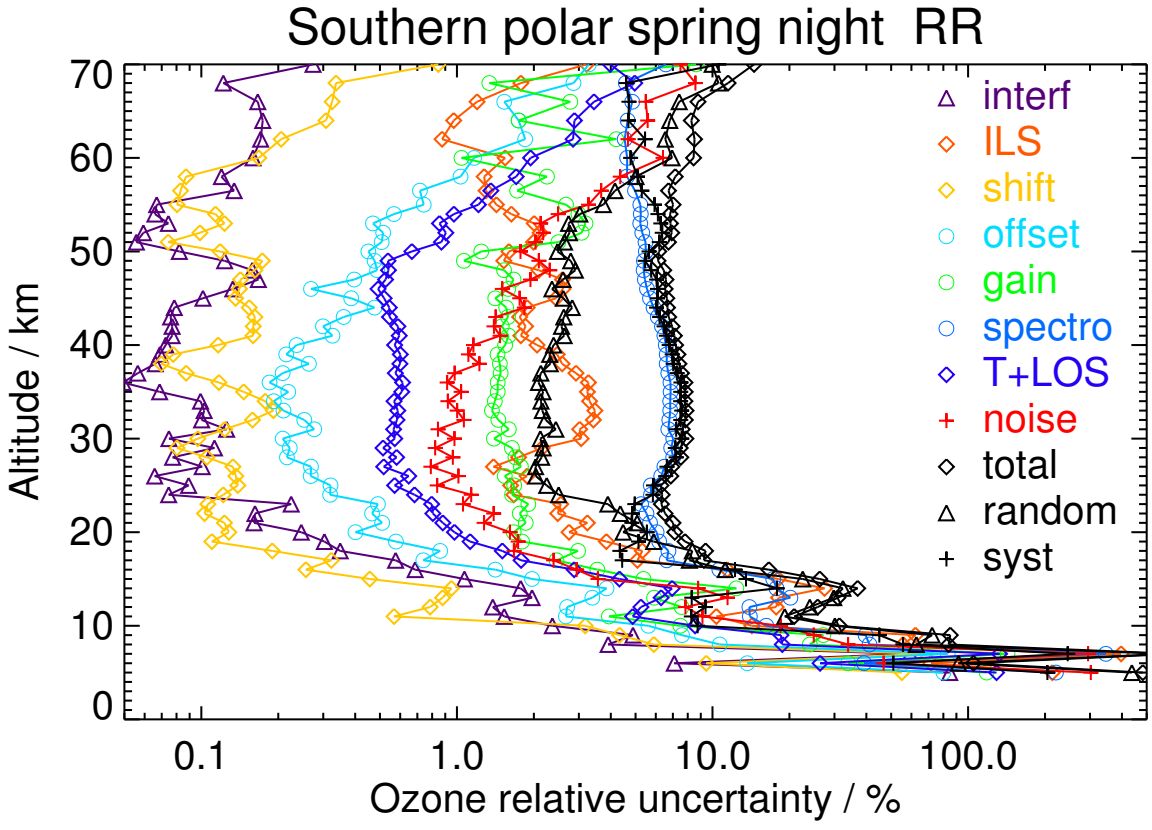

Figure S64. V8R_O3_261 Southern polar spring night

Table S66. Ozone error budget for Southern polar summer day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.00	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
9	0.23	2.82	29.33	2.15	4.79	10.31	21.45	8.32	13.48	40.91	6.26	41.39
12	0.26	4.82	31.40	1.26	4.86	10.91	24.26	7.50	11.36	31.36	30.72	43.90
15	0.64	1.91	9.56	0.39	1.44	3.11	10.39	2.68	4.67	11.94	10.07	15.62
18	1.75	0.53	4.76	0.08	0.57	1.70	5.07	1.08	1.96	5.20	5.45	7.54
21	3.18	0.19	2.46	0.09	0.49	2.01	4.71	0.73	1.14	3.29	4.85	5.86
24	3.38	0.20	3.84	0.15	0.41	1.57	8.36	1.06	1.58	2.64	9.17	9.54
27	3.54	0.17	1.68	0.18	0.47	2.16	5.46	0.64	1.17	2.85	5.59	6.28
30	4.21	0.10	4.49	0.06	0.41	0.81	6.89	0.67	1.66	2.40	8.12	8.47
33	4.75	0.11	2.44	0.18	0.37	1.76	5.62	0.55	1.36	2.11	6.21	6.56
36	5.35	0.05	2.68	0.08	0.25	1.63	5.77	0.51	1.04	1.61	6.48	6.67
39	5.30	0.06	1.32	0.12	0.36	2.02	5.39	0.56	1.17	1.64	5.83	6.05
42	4.70	0.07	1.36	0.15	0.38	1.73	5.09	0.53	1.39	1.66	5.51	5.75
45	3.73	0.11	2.07	0.14	0.42	1.37	4.70	0.49	1.75	2.03	5.26	5.64
48	2.80	0.16	2.13	0.19	0.47	1.67	4.55	0.54	2.09	2.28	5.27	5.74
52	1.92	0.07	2.22	0.09	0.46	3.18	4.59	0.72	1.85	2.17	5.96	6.35
56	1.26	0.15	1.08	0.13	0.70	2.05	4.55	1.31	3.53	4.08	4.91	6.39
60	0.94	0.27	2.56	0.56	1.24	2.56	6.13	2.10	5.31	6.34	6.71	9.23
64	0.67	0.17	0.77	0.50	1.72	4.33	6.03	2.40	5.42	8.01	5.47	9.70
68	0.39	0.51	2.02	1.19	4.86	16.95	7.06	5.67	11.57	14.93	17.60	23.08

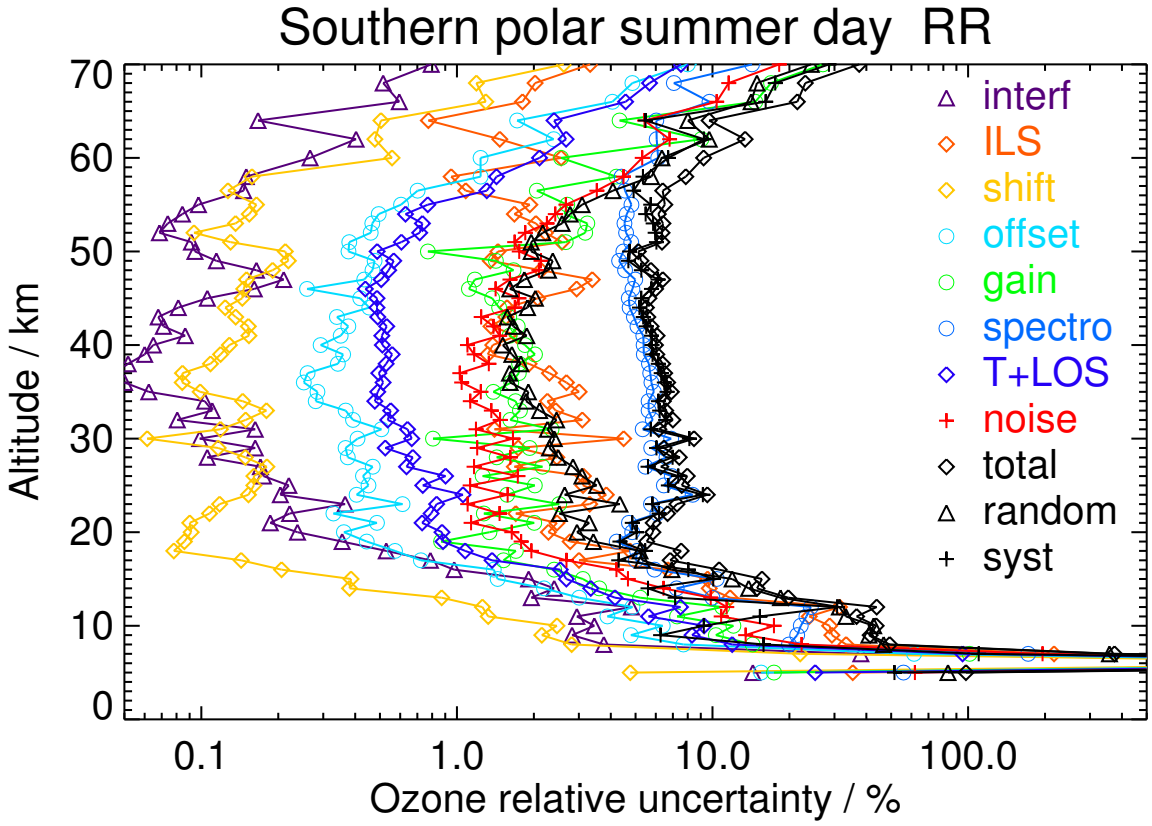

Figure S65. V8R_O3_261 Southern polar summer day

Table S67. Ozone error budget for Southern polar summer night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.00	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
9	0.22	3.15	25.24	3.40	6.04	7.33	23.53	9.55	18.09	34.15	23.56	41.49
12	0.31	2.78	25.27	1.29	4.22	8.18	15.09	5.90	12.34	33.55	4.72	33.88
15	0.65	1.10	10.64	0.45	1.86	3.45	10.33	3.03	6.04	13.98	9.32	16.81
18	1.76	0.50	4.93	0.11	0.68	1.60	4.63	1.24	2.36	5.22	5.38	7.50
21	3.08	0.19	1.44	0.11	0.37	1.39	4.78	0.71	1.40	2.65	4.74	5.43
24	3.92	0.14	3.00	0.10	0.35	1.41	7.10	0.87	1.45	2.47	7.64	8.03
27	4.21	0.19	1.48	0.16	0.47	2.39	5.96	0.70	1.16	2.81	6.14	6.75
30	5.01	0.10	4.07	0.09	0.30	0.97	6.52	0.61	1.40	1.99	7.65	7.90
33	5.76	0.05	2.17	0.09	0.34	1.79	5.98	0.61	1.05	1.69	6.52	6.73
36	6.16	0.06	1.26	0.10	0.34	1.98	5.80	0.57	1.02	1.45	6.21	6.37
39	5.85	0.06	0.52	0.15	0.40	2.18	5.62	0.61	1.19	1.58	6.01	6.21
42	4.88	0.07	1.55	0.08	0.45	1.64	5.53	0.55	1.45	1.71	5.95	6.19
45	3.64	0.11	1.47	0.19	0.48	1.41	4.80	0.51	1.92	2.13	5.18	5.60
48	2.91	0.15	2.26	0.15	0.48	1.60	4.46	0.49	2.16	2.32	5.23	5.72
52	2.15	0.07	2.02	0.11	0.50	2.78	4.76	0.76	1.94	2.23	5.84	6.25
56	1.54	0.12	1.44	0.07	0.69	2.06	4.74	1.23	3.29	3.67	5.30	6.45
60	1.32	0.16	1.81	0.17	1.09	0.91	4.49	1.68	5.25	5.72	4.80	7.47
64	1.20	0.19	1.01	0.28	1.77	3.14	4.46	2.49	4.62	5.89	5.18	7.84
68	1.05	0.09	0.92	0.24	2.74	3.20	4.61	4.81	7.33	9.35	5.41	10.80

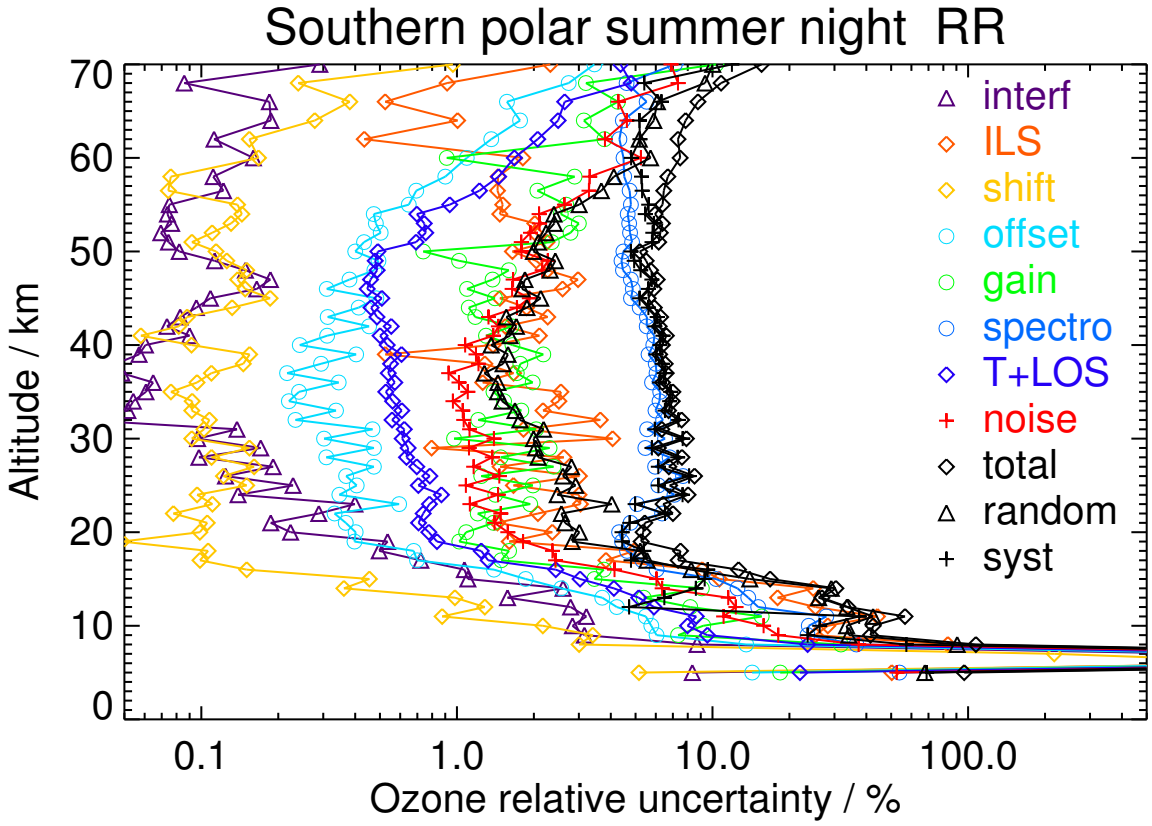

Figure S66. V8R_O3_261 Southern polar summer night

Table S68. Ozone error budget for Southern polar autumn day. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.02	24.91	>100	20.94	36.01	68.87	>100	73.80	>100	>100	94.18	>100
9	0.16	3.85	43.97	2.24	7.12	15.89	29.51	13.95	19.32	56.96	21.22	60.79
12	0.33	2.67	22.91	1.22	3.42	6.27	16.92	5.85	8.38	28.67	12.37	31.23
15	0.92	0.99	8.99	0.36	1.13	3.51	6.72	2.29	3.35	9.44	8.24	12.53
18	2.08	0.38	7.47	0.24	0.69	1.58	5.88	1.50	1.84	5.89	8.03	9.96
21	3.02	0.17	3.72	0.09	0.43	0.80	6.90	0.97	1.45	2.96	7.53	8.09
24	3.50	0.11	1.12	0.16	0.48	2.05	7.69	1.13	1.76	2.98	7.77	8.32
27	3.74	0.10	3.66	0.12	0.45	1.23	8.71	0.95	1.48	3.15	9.17	9.70
30	4.09	0.08	3.52	0.18	0.44	1.31	8.08	0.92	1.88	2.88	8.70	9.17
33	4.62	0.10	2.91	0.14	0.41	1.41	7.52	0.85	1.80	2.80	7.96	8.44
36	5.13	0.05	2.60	0.14	0.39	1.49	7.40	0.82	1.60	2.64	7.76	8.20
39	5.19	0.06	2.13	0.19	0.51	1.44	7.06	0.83	1.80	3.05	7.17	7.79
42	4.64	0.06	1.38	0.27	0.65	1.51	6.47	0.88	2.08	3.12	6.47	7.19
45	3.78	0.09	1.80	0.17	0.54	1.41	6.21	0.76	2.39	2.88	6.49	7.10
48	2.78	0.14	2.64	0.13	0.65	1.26	6.81	0.89	3.18	3.51	7.35	8.14
52	1.69	0.05	1.87	0.05	0.77	3.72	5.58	1.54	3.42	4.05	6.83	7.95
56	0.92	0.11	1.88	0.24	1.26	3.25	5.63	3.13	6.79	8.04	6.21	10.16
60	0.63	0.08	1.98	0.15	1.70	2.65	5.38	3.41	8.94	10.02	5.82	11.59
64	0.43	0.07	1.36	0.26	2.65	2.29	6.35	2.95	9.72	10.94	6.16	12.56
68	0.25	0.13	1.70	0.28	6.58	3.68	5.72	3.54	21.72	23.16	6.38	24.02

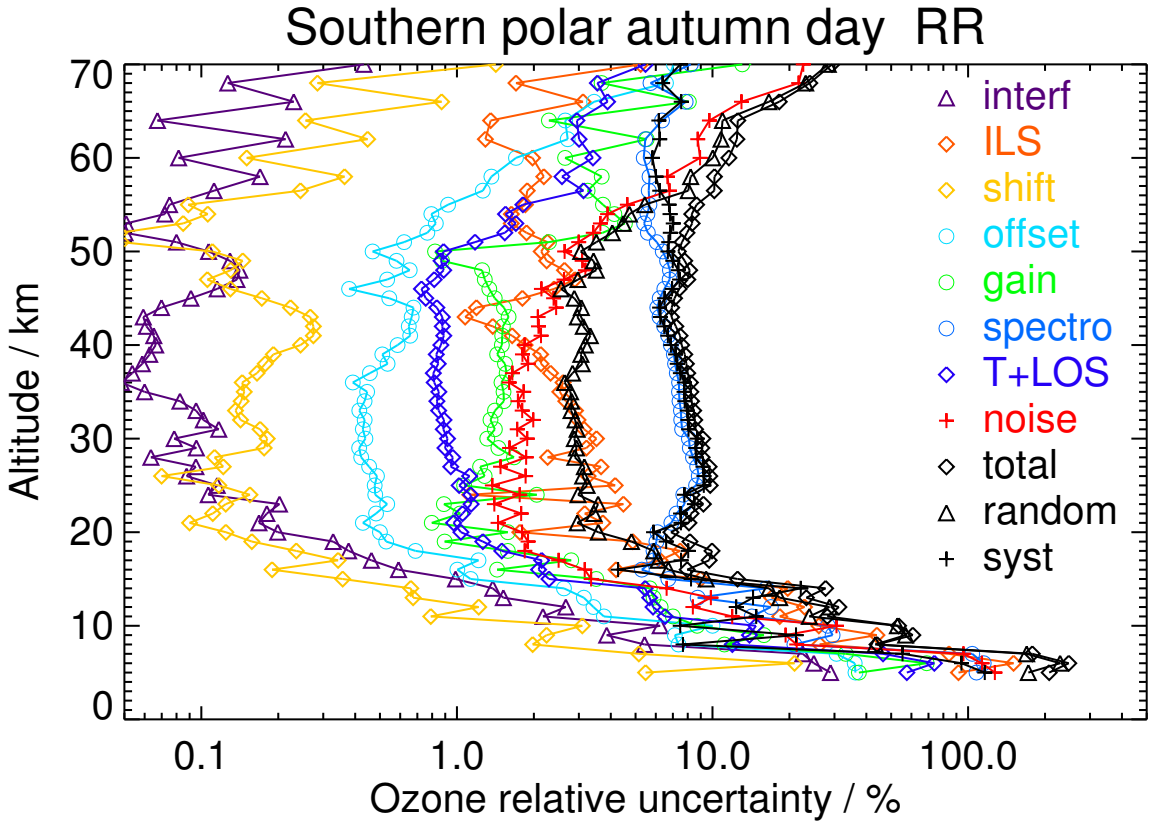

Figure S67. V8R_O3_261 Southern polar autumn day

Table S69. Ozone error budget for Southern polar autumn night. All uncertainties are 1σ.

altitude (km)	mean target (ppmv)	interf (%)	ILS (%)	shift (%)	offset (%)	gain (%)	spectro (%)	T+LOS (%)	noise (%)	random (%)	syst (%)	total (%)
6	0.02	23.54	>100	15.38	42.98	>100	>100	90.87	>100	>100	>100	>100
9	0.20	3.12	61.75	2.24	8.40	22.40	53.28	17.70	16.72	62.14	63.02	88.50
12	0.26	2.96	40.33	1.97	5.47	13.44	36.17	10.54	12.06	45.45	36.71	58.43
15	0.99	0.78	9.87	0.37	1.28	3.86	9.02	2.75	3.46	12.88	7.06	14.68
18	2.48	0.32	4.74	0.16	0.51	1.12	5.61	1.31	1.66	5.10	5.83	7.75
21	2.94	0.16	3.69	0.11	0.47	1.12	8.63	1.15	1.54	4.01	8.79	9.66
24	2.92	0.12	1.95	0.11	0.50	1.95	7.78	1.27	2.08	3.66	7.80	8.62
27	3.23	0.11	3.41	0.12	0.44	1.23	8.48	0.98	1.70	3.29	8.85	9.44
30	3.49	0.08	3.62	0.20	0.46	1.31	8.48	0.95	2.19	3.47	8.98	9.63
33	3.84	0.09	2.64	0.11	0.44	1.54	7.36	0.86	2.12	3.46	7.54	8.30
36	4.43	0.06	2.28	0.18	0.48	1.59	6.80	0.83	1.88	3.27	6.90	7.64
39	4.73	0.05	1.48	0.22	0.63	1.72	6.06	0.91	2.00	3.24	6.06	6.87
42	4.43	0.05	1.26	0.25	0.65	1.58	5.69	0.90	2.18	3.13	5.72	6.52
45	3.58	0.09	1.96	0.13	0.50	1.29	5.97	0.75	2.54	3.00	6.28	6.96
48	2.71	0.14	2.47	0.12	0.67	1.28	6.50	0.90	3.29	3.64	7.00	7.89
52	1.63	0.05	1.91	0.03	0.87	3.34	5.51	1.40	3.76	4.29	6.60	7.88
56	1.23	0.11	1.90	0.09	1.17	2.59	4.29	2.11	5.76	6.50	5.05	8.23
60	1.14	0.13	2.56	0.11	1.59	2.50	4.12	2.55	8.20	8.96	5.08	10.30
64	1.31	0.13	0.64	0.17	2.17	2.23	3.82	2.86	6.10	7.39	3.94	8.38
68	1.75	0.07	1.20	0.16	2.54	2.09	3.90	3.90	7.18	8.76	4.19	9.71

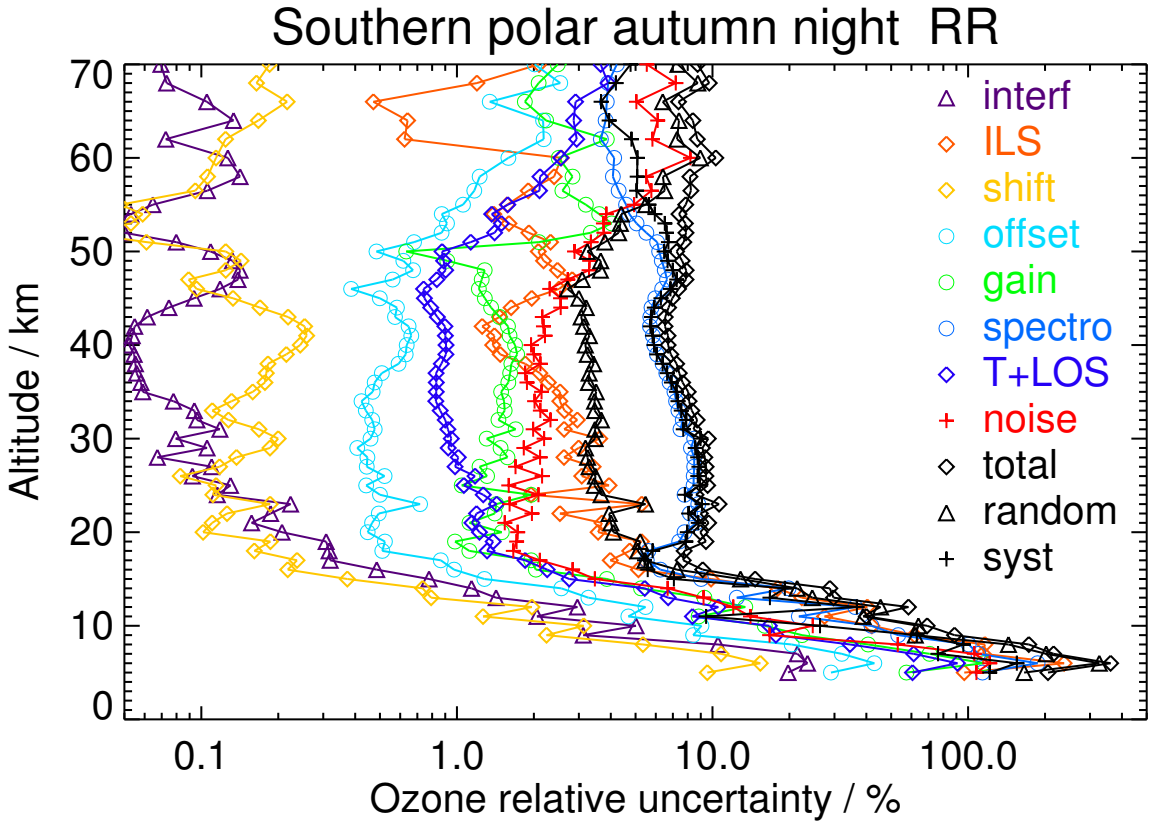

Figure S68. V8R_O3_261 Southern polar autumn night