

Gases	O ₃	CO	HCHO
Retrieval code	SFIT4 v 0.9.4.4	SFIT4 v 0.9.4.4	SFIT4 v 0.9.4.4
Spectroscopy	HITRAN2008	HITRAN2008	HITRAN2008
<i>P</i> , <i>T</i> , H ₂ O profiles	NCEP	NCEP	NCEP
A priori profiles for target/interfering gases except H ₂ O	WACCM	WACCM	WACCM
MW for profile retrievals	1000–1004.5	2057.7–2058 2069.56–2069.76 2157.5–2159.15	2763.42–2764.17 2765.65–2766.01 2778.15–2779.1 2780.65–2782.0
Retrieved interfering gases	H ₂ O, CO ₂ , C ₂ H ₄ , ⁶⁶⁸ O ₃ , ⁶⁸⁶ O ₃	O ₃ , N ₂ O, CO ₂ , OCS, H ₂ O	CH ₄ , O ₃ , N ₂ O, HDO
SNR for de-weighting	None	500	600
<i>S</i> _a	Standard deviation of WACCM	Standard deviation of WACCM	Standard deviation of WACCM
<i>S</i> _ε	Real SNR	Real SNR	Real SNR
ILS	LINEFIT145	LINEFIT145	LINEFIT145
Error analysis	<p>Systematic error</p> <ul style="list-style-type: none"> – smoothing error (smoothing) – errors from other parameters: background curvature (curvature), optical path difference (max_opd), field of view (omega), solar line strength (solstrnth), background slope (slope), solar line shift (solshft), phase (phase), solar zenith angle(sza), line temperature broadening (linetair_gas), line pressure broadening (linepair_gas), line intensity(lineint_gas) <hr/> <p>Random error</p> <ul style="list-style-type: none"> – interference errors: retrieval parameters (retrieval_parameters), interfering species (interfering_species) – Measurement error (measurement) – errors from other parameters: temperature (temperature), zero level (zshift) 		