

Key changes	Version 2	Version 2.5
Cloud height detection	Rault (2005)	New algorithm to better discriminate between clouds and aerosol (Chen et al., 2016)
Altitude registration	Static corrections of 0.58, 1.18 and 1.75 km for the left, center and right slits, respectively	Static corrections of 1.12, 1.37 and 1.52 km for the left, center and right slits, respectively; +0.1 km adjustments for all three slits on 25 April 2013 and on 5 September 2014; Intra-orbital and seasonal TH adjustments of ~ 0.3 – 0.4 km (Moy et al., 2017)
Stray light corrections	Prelaunch SL corrections; Corrections for unexpected thermal sensitivity in NH (Jaross et al., 2014)	Empirical corrections for VIS (similar to those described in Taha et al., 2008)
Wavelengths selection	UV: 289–325 nm paired with 353 nm (about 43 UV pairs) VIS: 549–633 nm combined with the reference wavelengths at 510 and 673 nm to form ~ 17 VIS triplets	UV: 302, 312 and 322 nm paired with 353 nm (three UV pairs); VIS: 600 nm combined with 510 and 675 nm to form a single VIS triplet
Radiance normalization altitude	UV: 65 km VIS: 45 km	UV: 55 km VIS: 40 km
Aerosol correction	No explicit aerosol correction	Use aerosol extinction coefficient profiles retrieved from LP measurements for same event (Loughman et al., 2017)
Vertical smoothing	Second-order Twomey–Tikhonov regularization term	Define a priori covariance matrices S_a assuming 25 % ozone variability above 20 km, 50 % ozone variability below 16 and 5 km inter-level correlation
Measurement error	UV: 1 % VIS: 1 %	UV: 1 % VIS: 0.5 %