

## Supplement to authors' reply to reviewer #1

Figures mentioned in the reply to reviewer #1 are included in this supplement (for formatting reasons only).

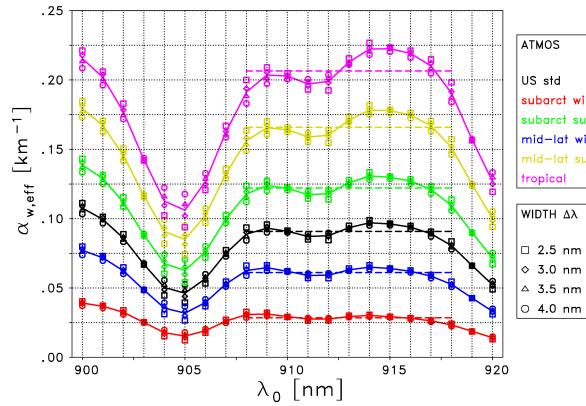


Figure 2: Effective water vapor absorption coefficient  $\alpha_{w,\text{eff}}$  in the lowermost layer (0–1 km) for 6 standard atmospheres and different  $\Delta\lambda$  as indicated in the legend. The dashed line gives the average over the spectral range from 908 nm to 918 nm.

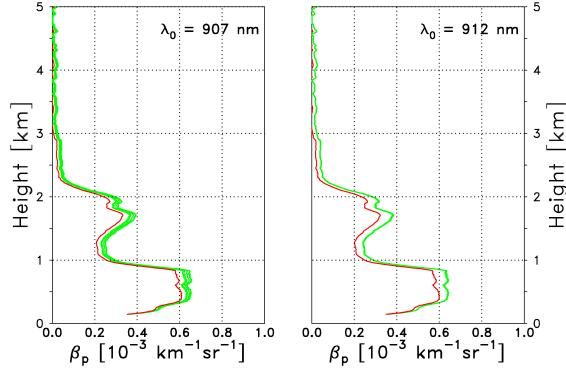


Figure 8: Retrieved particle backscatter coefficient at  $\lambda_0 = 907$  nm (left) and  $912$  nm (right) in  $\text{km}^{-1}\text{sr}^{-1}$ :  $\beta_p$  with (green) and  $\beta_p^*$  without (red) water vapor correction. The water vapor distribution of 17 March 2012 is assumed.

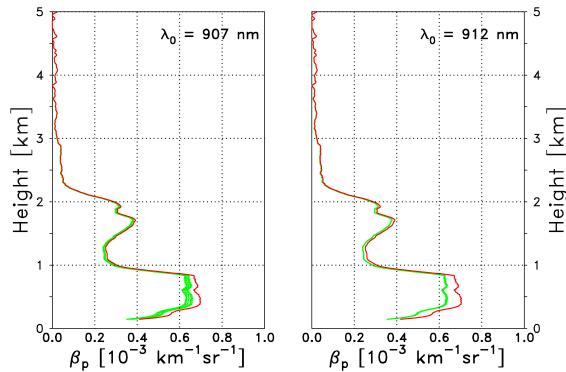


Figure 10: Same as Fig. 8 but application of the backward integration.