References


Figure 1: Evolution of the daily global total ozone column for various experiments completed with MOCAGE-Climat (see text).
Figure 2: MOCAGE-Climat zonal monthly mixing ratios of $CH_4$ (ppmv) against the Groes and Russel (2005) climatology, and relative differences ($100 \times ((Model - Obs)/Obs)$), between 100 and 0.1 hPa, in March (left panels) and September (right panels). MOCAGE-Climat has been driven by the outputs of the ARPEGE-Climat GCM.
Figure 3: MOCAGE-Climat T42 zonal monthly mixing ratios of \( CH_4 \) (ppmv) against the Gross and Russel (2005) climatology, and relative differences \((100 \times ((\text{Model} - \text{Obs})/\text{Obs}))\), between 100 and 0.1 hPa, in March (left panels) and September (right panels).
Figure 4: MOCAGE-Climat zonal monthly mixing ratios of $H_2O$ (ppmv) against the Groes and Russel (2005) climatology, and relative differences ($100 \times \frac{(Model - Obs)}{Obs}$), between 100 and 0.1 hPa, in March (left panels) and September (right panels). MOCAGE-Climat has been driven by the outputs of the ARPEGE-Climat GCM.
Figure 5: MOCAGE-Climat T42 zonal monthly mixing ratios of $H_2O$ (ppmv) against the Grooss and Russel (2005) climatology, and relative differences ($100 \times ((Model - Obs)/Obs)$), between 100 and 0.1 hPa, in March (left panels) and September (right panels).
Figure 6: MOCAGE-Climat zonal monthly mixing ratios of $N_2O$ (ppmv) against the Randel et al. (1998) climatology, and relative differences ($100 \times ((\text{Model} - \text{Obs})/\text{Obs})$), between 100 and 0.1 hPa, in March (left panels) and September (right panels). MOCAGE-Climat has been driven by the outputs of the ARPEGE-Climat GCM.
Figure 7: MOCAGE-Climat T42 zonal monthly mixing ratios of $N_2O$ (ppmv) against the Randel et al. (1998) climatology, and relative differences ($100 \times \left(\frac{\text{Model} - \text{Obs}}{\text{Obs}}\right)$), between 100 and 0.1 hPa, in March (left panels) and September (right panels).
Figure 8: MOCAGE-Climat monthly mean mixing ratios of $O_3$ (ppmv), $ClO$ (pptv), $HNO_3$ (ppbv), $NO_2$ (ppbv), $ClONO_2$ (ppbv) and $H_2O$ (ppmv) at 50 hPa from July to October 2005. Data are averages from the South Pole to 70 S. Note that the vertical axis is logarithmic.
Figure 9: Vertical profiles of $NO_2$ photolysis according to four values of the surface albedo for January with a zenithal angle of 40 degrees, and a total ozone column of 300 DU.