



*Supplement of*

## **The middle atmospheric meridional circulation for 2002–2012 derived from MIPAS observations**

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### **Abstract**

In this supplement the figures of the main paper are shown in colour scales which are hoped to be better suited for those who do not have a standard perception of color. The numbers of the figures are the same as in the main paper.

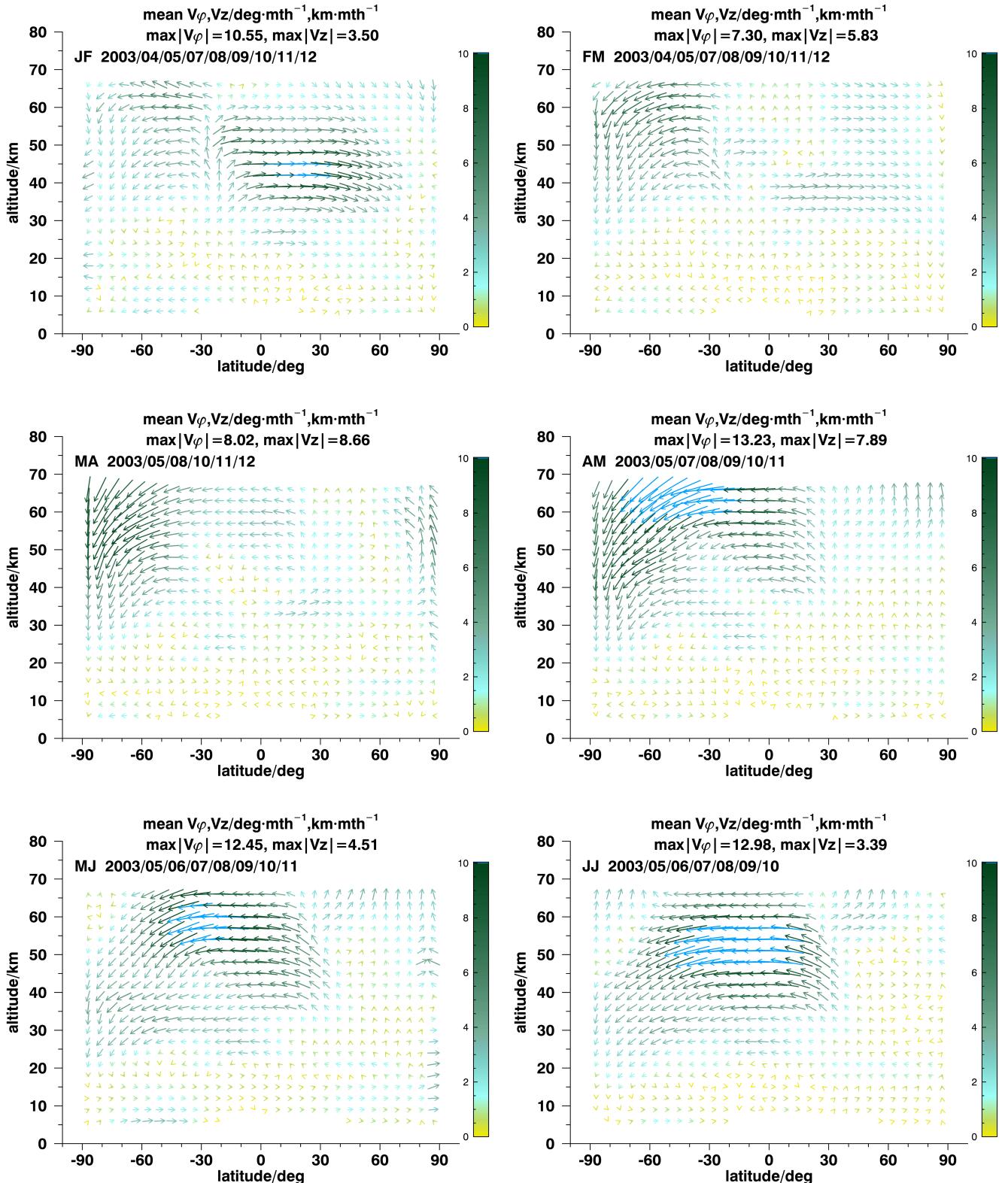


Figure S1: Mean monthly circulation patterns from January–February (top left, JF) to June–July (bottom right, JJ). The headers give quantitative information about maximal effective velocities, the months and years considered. Missing years are due to MIPAS data gaps and non-converged inversions. The colour scales refer to  $\sqrt{(v_\phi \text{deg}^{-1} \text{month})^2 + (v_z \text{km}^{-1} \text{month})^2}$  for  $v_\phi$  and  $v_z$  in units of degrees per month and kilometer per month.

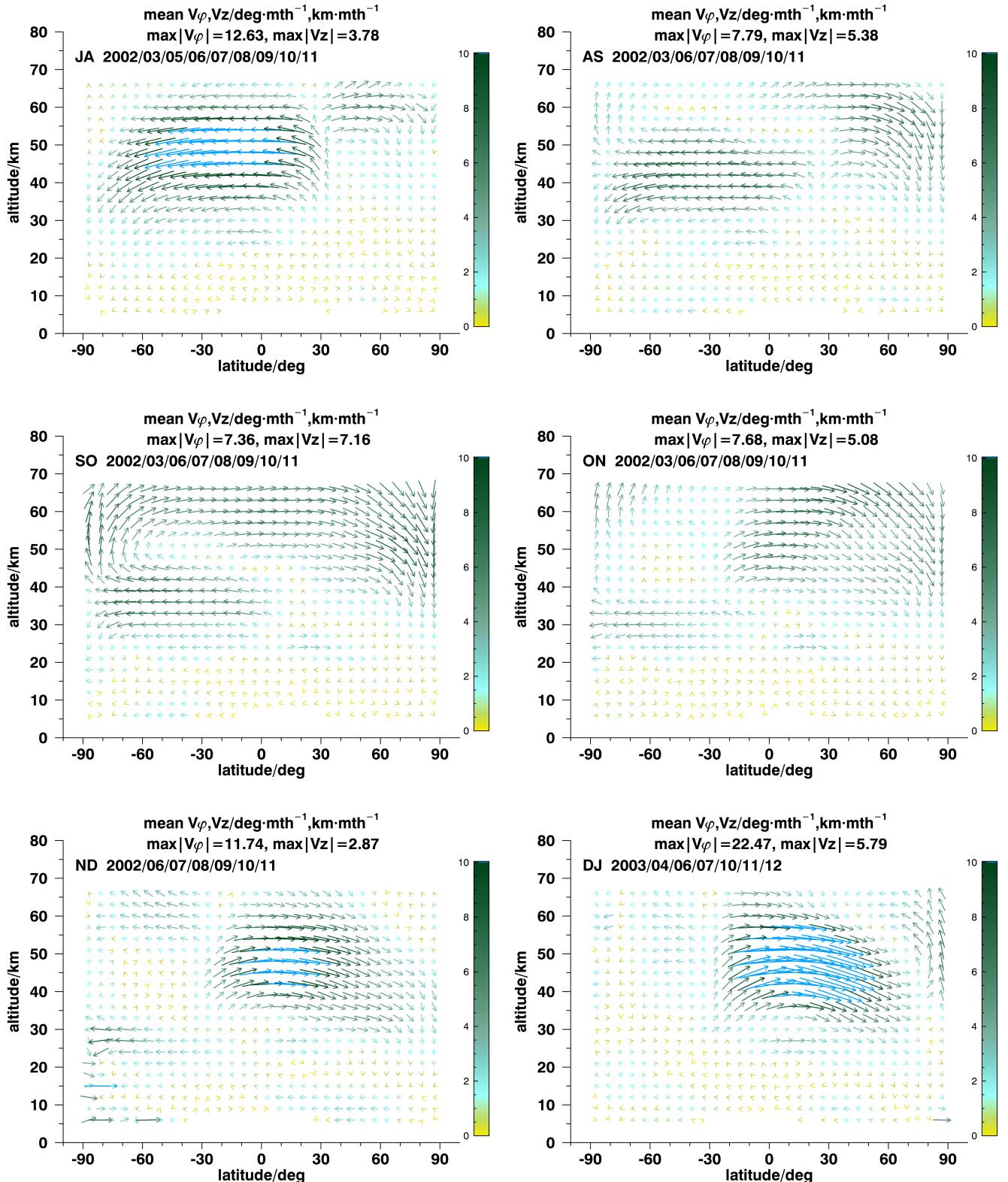


Figure S2: Mean monthly circulation patterns from July–August (top left, JA) to December–January (bottom right, DJ). For details, see Fig. S1.

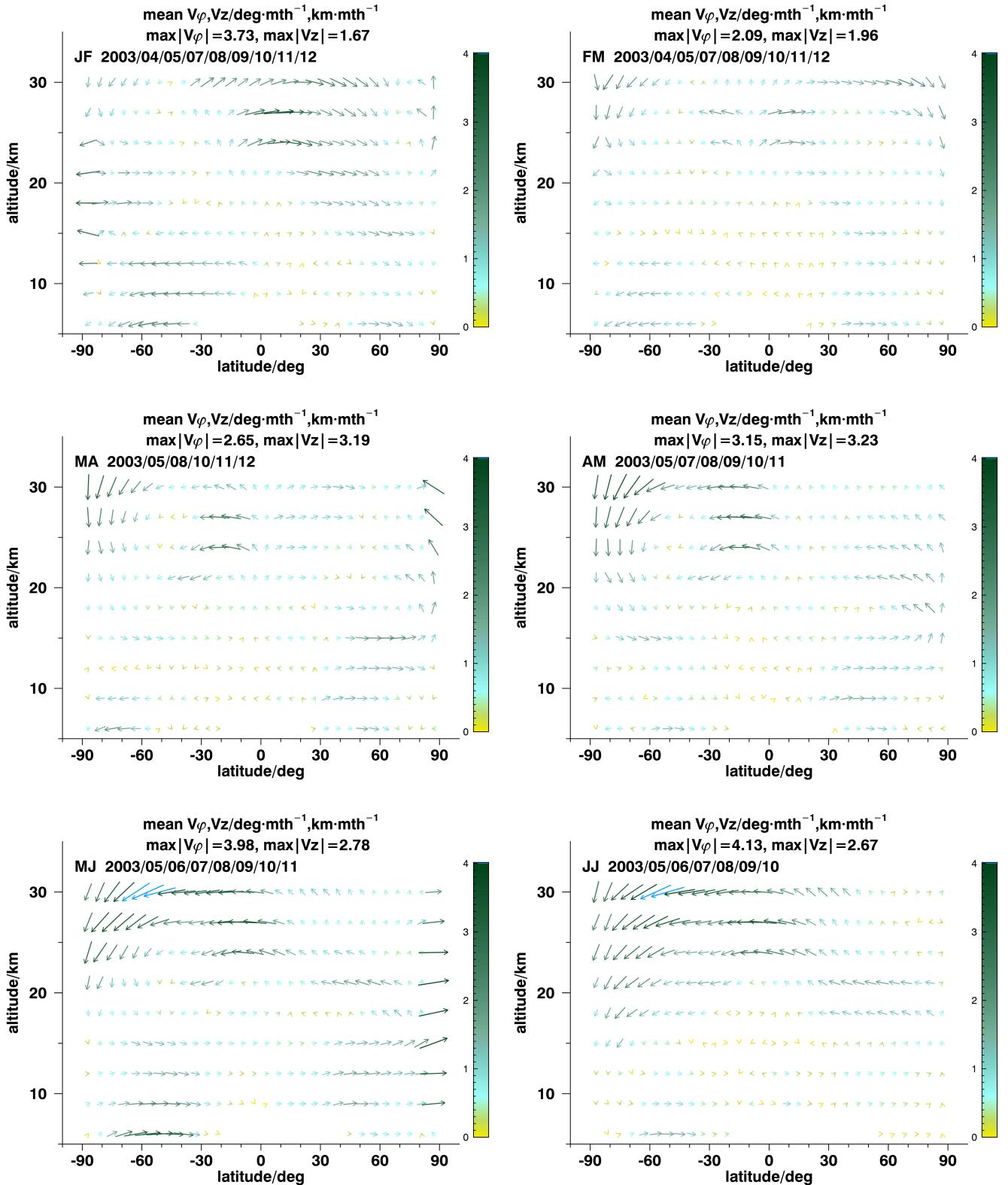


Figure S3: Same as Fig. S1 but for altitudes up to 30 km only.

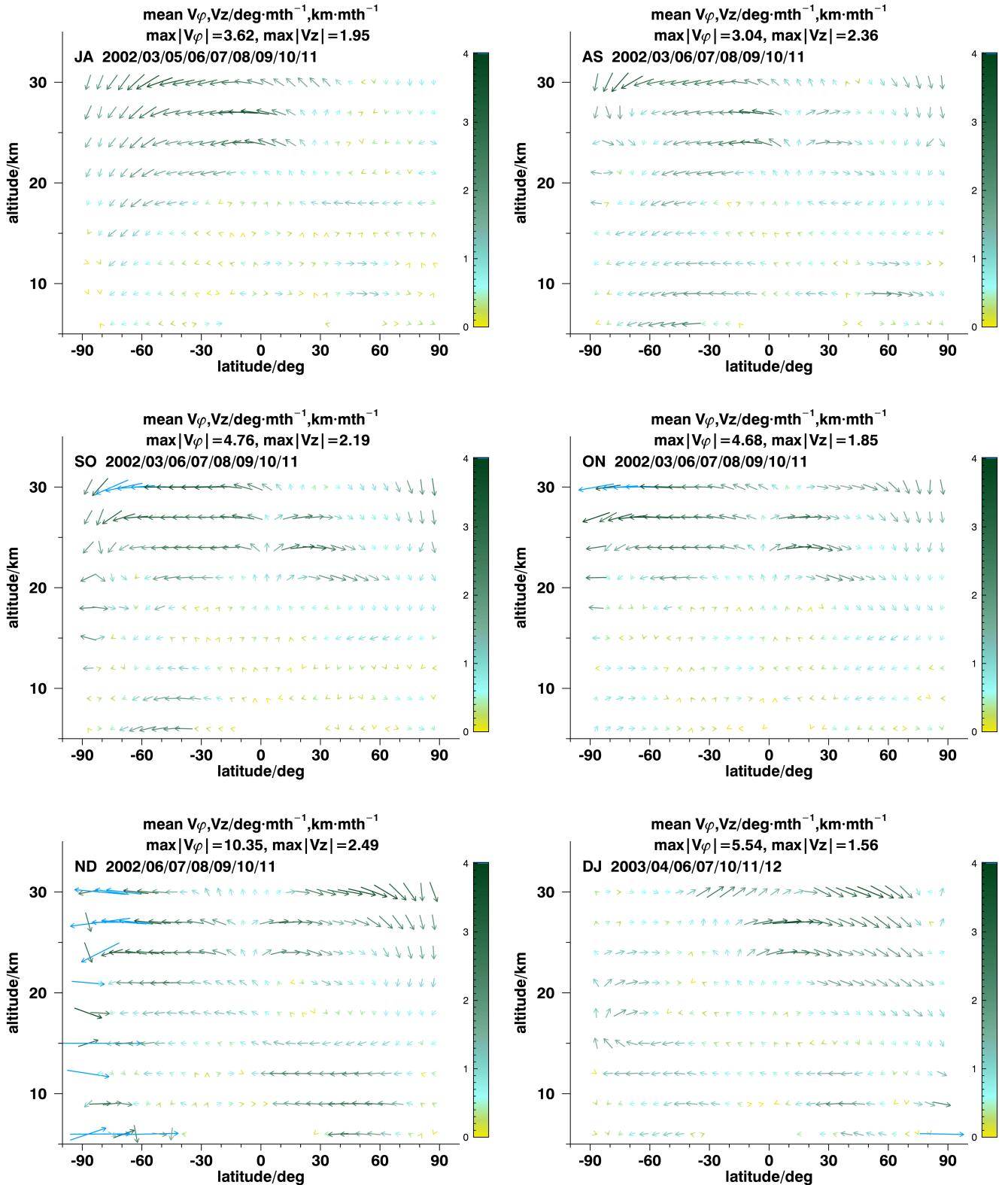


Figure S4: Same as Fig. S2 but for altitudes up to 30 km only.

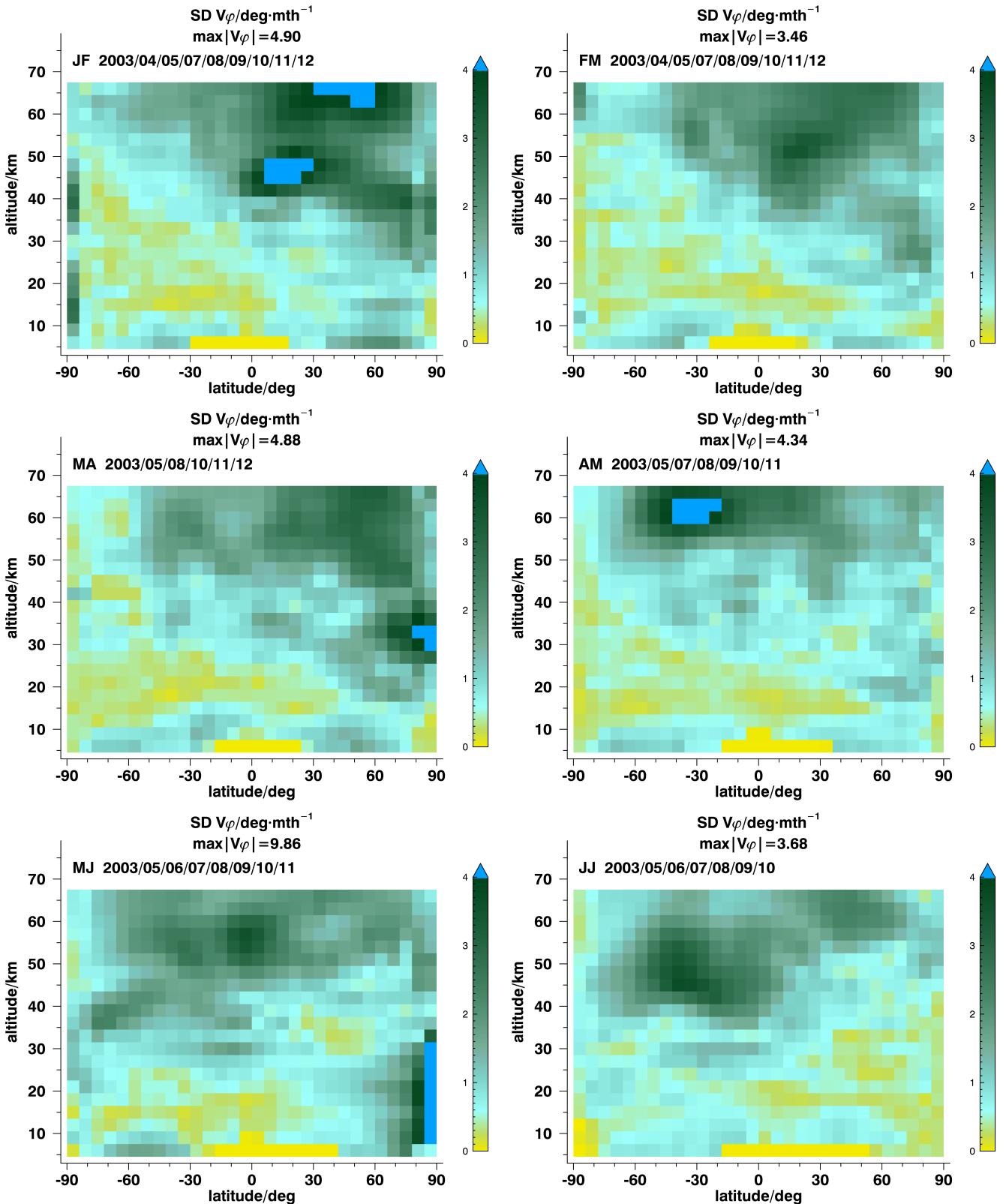


Figure S5: Inter-annual variability of the middle atmospheric meridional effective velocities in terms of sample standard deviations from January–February (top left, JF) to June–July (bottom right, JJ).

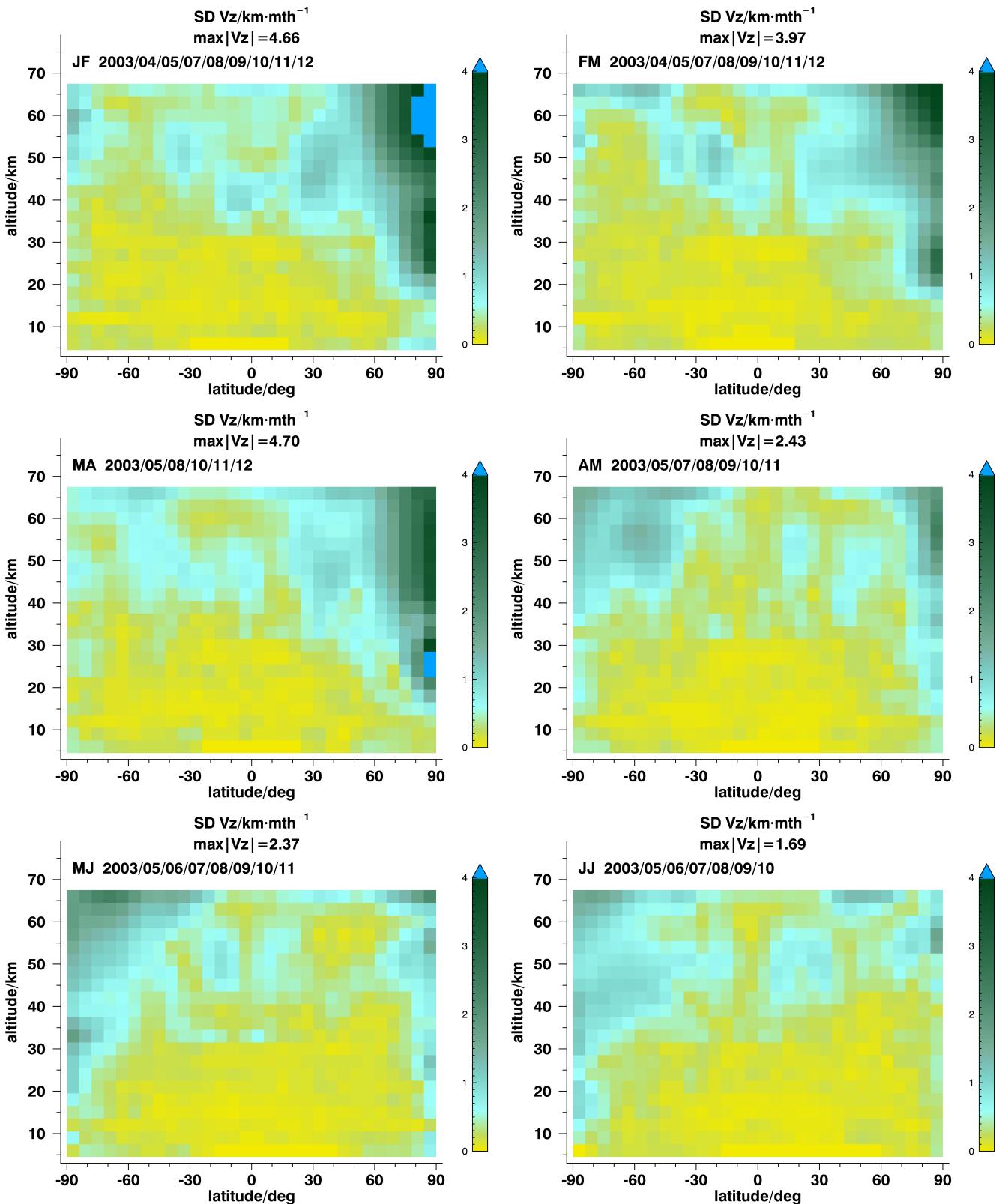


Figure S6: Inter-annual variability of the middle atmospheric vertical effective velocities in terms of sample standard deviations from January–February (top left, JF) to June–July (bottom right, JJ).

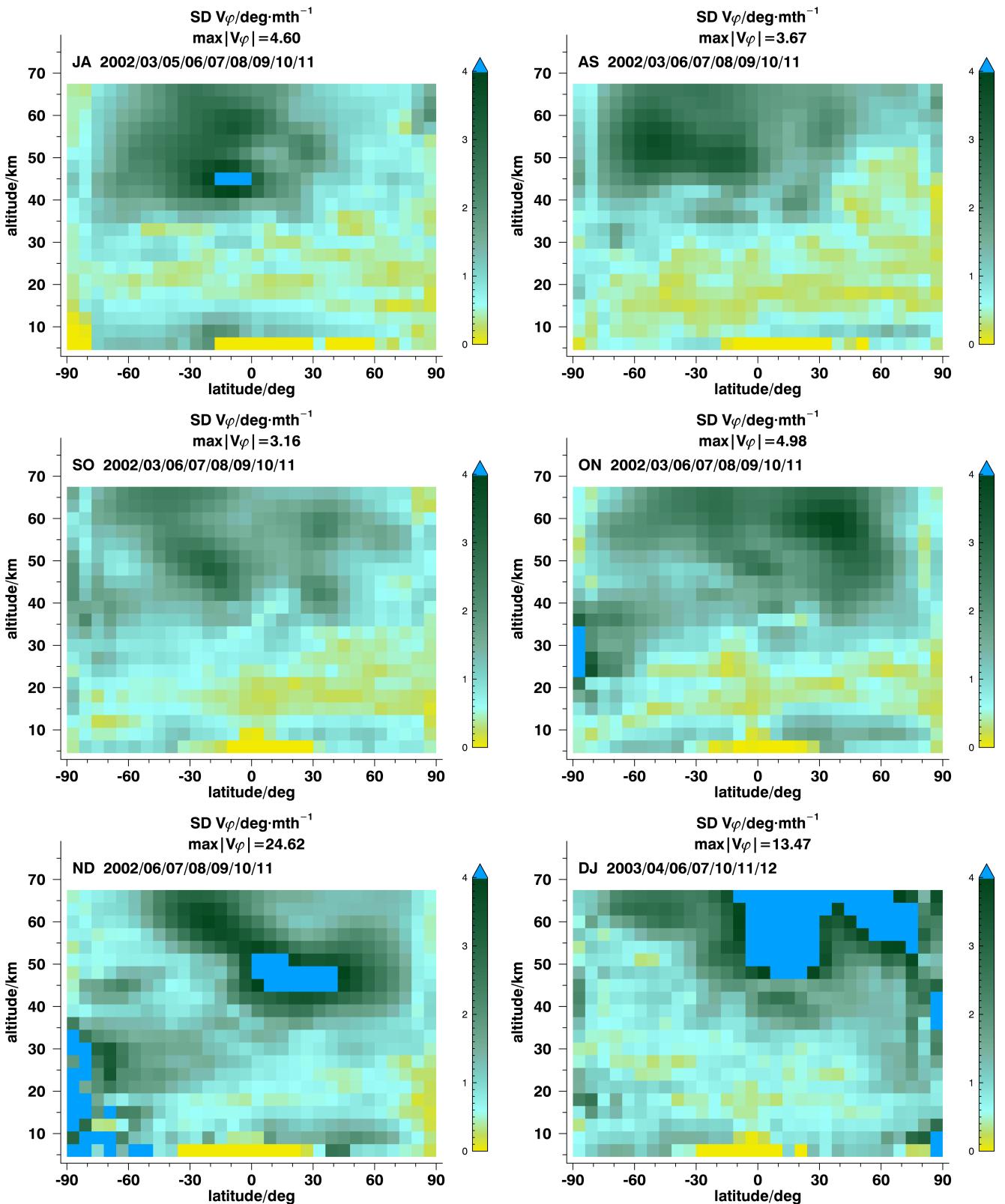


Figure S7: Inter-annual variability of the middle atmospheric meridional effective velocities in terms of sample standard variations from July–August (top left, JA) to December–January (bottom right, DJ).

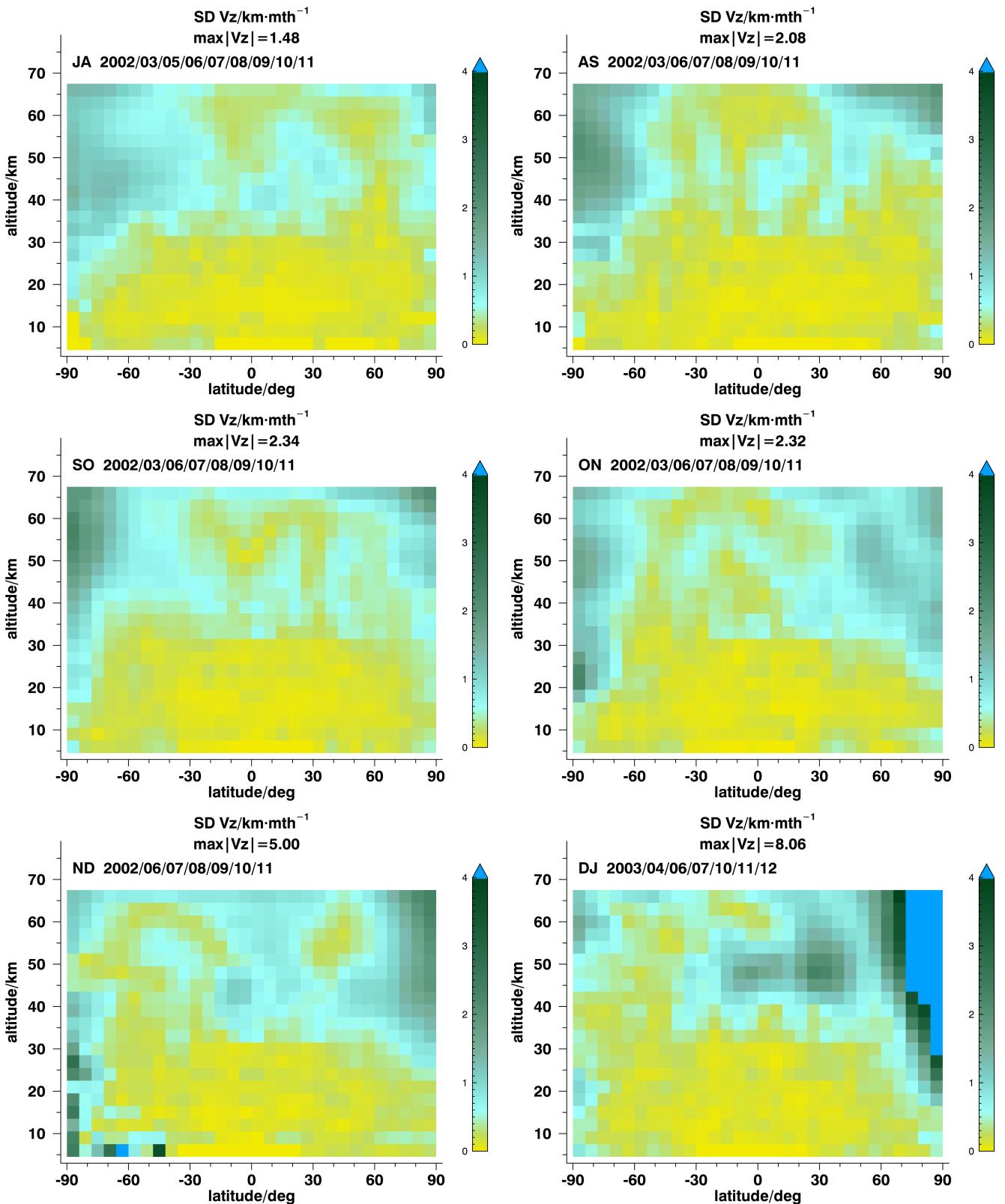


Figure S8: Inter-annual variability of the middle atmospheric vertical effective velocities in terms of sample standard variations from July–August (top left, JA) to December–January (bottom right, DJ).