



Temperature retrieval from stratospheric O₃ and NO₃ GOMOS data

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The objective of this work is to test the ability to extract temperature information from chemical measurements. The chemistry of some species is strongly temperature dependent. The typical example is the NO₃ chemistry. We use a relatively simple steady-state expression of the night-time NO₃ concentration to derive temperature fields from O₃ and NO₃ GOMOS data. The temperatures are found to be in good agreement with ECMWF analyses. The results suggest that the use of temperature as a control variable in chemical data assimilation could prove useful in improving the quality of temperature analysis.