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Secondary maxima in ozone profiles

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Abstract. Ozone profiles from balloon soundings as well as SAGEII ozone profiles were used to detect anomalous large ozone concentrations of ozone in the lower stratosphere. These secondary ozone maxima are found to be the result of differential advection of ozone-poor and ozone-rich air associated with Rossby wave breaking events. The frequency and intensity of secondary ozone maxima and their geographical distribution is presented. The occurrence and amplitude of ozone secondary maxima is connected to ozone variability and trend at Uccle and account for a large part of the total ozone and lower stratospheric ozone variability.

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