



## **OZONE PROFILES AND STRUCTURE OF LAMINATION IN ANKARA, TURKEY**

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The existence of the laminar layers with depleted and enhanced ozone mixing ratios in the vertical profiles of ozone has been received scientific attention. Due to the influences of the dynamic processes on the ozone mixing ratio in the lower stratosphere, laminar features are used in relation to the filaments of air shed from the dynamic processes. Stratospheric ozone observations are based on ozonesonde flown from Ankara (40°N; 33°E) by Turkish State Meteorological Service. Measurements of the ozone profile using ECC balloon-borne ozonesonde have been made since January 1994 at Ankara, Turkey weekly or twice in month.

In this study, about 151 soundings in the measured program (Jan.1994- Dec.2001) were used for the analysis. The total ozone characteristics of Ankara are similar to the stations of located in mid-latitudes of Eastern Europe. The average value of total column ozone amount by ozone sounding is found with a  $320 \text{ DU} \pm 43$  in the period of 1994-2001 in Ankara. The laminae features in Ankara reflect the similar characteristics obtained in European mid-latitude stations.

The seasonal distributions of laminae at Ankara show a peak occurrence in Spring. The numbers of laminae are found as 45, 58, 17 and 18 for winter, spring, summer and fall seasons respectively. The most of the laminae are found below 13 km. Frequency distribution magnitudes of laminae indicates 21% in 26-30 nb class. The mean magnitude and depth of the laminae is found as 45 nb and 1.1km respectively. In order to understand the influence of tropopause heights on the laminae structure, the number of laminae has been grouped according to high and low tropopause heights. The frequency of laminae for both lower and higher tropopause groups for winter and spring seasons are close. However the laminae disappearances in both summer and

fall seasons for only in case of the lower tropopause. The days with the maximum laminae which are mostly occurred in winter and spring seasons have been examined by synoptic-scale disturbances in the region.