

Micropulse lidar observations of lower tropospheric aerosol over Gadanki

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We made intensive observations of the tropospheric aerosols at Gadanki in the period from Jan to Oct 2005. Preliminary analysis of the data shows following features. (1) A dense atmospheric dust layer always existed in the lowermost troposphere whose top was 2 - 3 km above the ground surface. It is considered that the layer corresponded to the local mixing layer. (2) Distinct dust layers sometimes appeared at a height around 3 or 4 km. It is considered that these layers were on the way of long-range transport. (3) In January, there was a case that tops of the local dust layer reached as high as 5km. In such a condition, injection of the dust into free atmosphere might have occurred easily. (4) Generally, aerosol optical depth was small in the early morning, and large in the period of afternoon to the evening. However, maximum optical depth was observed in the midnight in several cases.