



## **Injection height of biomass burning aerosol as seen from a spaceborne lidar**

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We have analyzed new lidar measurements from space over regions of biomass burning activity. The height of the aerosol layers deduced from the CALIPSO lidar observations is compared to the mixing layer top as derived from ECMWF numerical weather analysis, to identify whether or not the aerosols are directly injected in the free troposphere above the boundary layer. During July and August 2006, the best cases (limited cloudiness, high density of fires) are found over South Africa and Northern Australia. Over these regions, the top of the aerosol layer is very close to the mixing layer height, which is a strong indication that the aerosols are injected within the boundary layer. Other tropical areas with biomass burning activity are more difficult to interpret but the valid data support the same conclusion. For higher latitudes regions with biomass burning activity, although several aerosol plumes are identified above the mixing layer, most of the aerosol load is within the mixing layer. These observations indicate that a simple parameterization of the injection height can be used in aerosol transport models.