

# **An overview of 10 years of lidar measurements at Table Mountain Facility, California, and Mauna Loa Observatory, Hawaii.**

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The JPL Atmospheric Lidar Group currently operates three ground-based differential absorption lidar (DIAL) systems. These systems provide high-resolution vertical profiles of tropospheric and stratospheric ozone and aerosols, and stratospheric and mesospheric temperature. The original system located at the JPL-Table Mountain Facility, California (TMF, 34.4°N, 117.7°W) has been measuring nighttime ozone number density from ~18-50 km and temperature from ~30-75 km, since 1988. An improved system was installed at the Mauna Loa Observatory, (MLO, 19.5°N, 155.6°W), Hawaii, in 1993, allowing ozone, aerosol, and temperature measurements between 15-90 km. A new tropospheric system has been recently developed at TMF, operating routinely since late 1999, and providing high-resolution ozone profiles between 5-20 km. Each of these lidars makes observations 2 to 3 nights a week, on average, and a very large database of ozone, temperature and aerosol profiles has been obtained since 1998 allowing climatologies to be developed and a wide range of temporal variability to be investigated. An overview and highlights from this long period of atmospheric measurements will be presented.<sup>†</sup>

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