

Aerosol profiles from a balloon flight near Darwin, Australia, (12.9°S, 131.7°E) on 23 November 2005 (00:02-02:19 UT). The measurements included condensation nuclei (CN), aerosol between 0.15 and 2.0 μm in radius in 12 sizes, ozone, and pressure/temperature. The aerosol instruments are built by the University of Wyoming, the ozone sensor is an ENSCI electrochemical concentration cell, and the pressure/temperature sensor is from Vaisala.

There are 2 figures shown:

- 1) ascent and descent aerosol concentration profiles vs altitude,
- 2) ascent and descent aerosol mixing ratio profile vs potential temperature

The CN instrument is saturated in the troposphere, thus the constant value at over 100 cm^{-3} . This occurs because, to limit gondola size and weight, the dilution valve, normally used in Laramie, is not included.

Due to an operational error the temperature profile had to be constructed using the 23 November 2005 00:00 UT temperature sounding from Darwin for both ascent and descent. The tropopause height is thus somewhat in question; however, the true height of the tropopause is not expected to be higher than indicated based on the measured temperature and ozone profile showing an equivalent or lower tropopause.

The missing data around 5 km resulted from a faulty preamplifier on the antenna cable.



