

Un-volatile aerosol layer in the lower most stratosphere over tarawa, Kiribati, observed by balloon borne Optical Particle Counter in January, 2016

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Size distributions and volatility of aerosols in the Tropical Tropopause Layer (TTL) over Tarawa (1.5 °S, 173.0 °E) were observed using balloon-borne dual optical particle counters (OPC) in January 2016. One OPC observed number concentration of ambient aerosols and another OPC observed aerosol size distribution denuded at 200 °C, in order to discuss volatility of aerosols.

Unusual aerosol layer was found in the stratosphere from 18 to 22 km in altitude. The layer was divided into two sub-layers. Upper layer was characterized by smaller high volatile aerosol, and lower one by mixture with larger submicron un-volatile aerosol. The feature was similar to fresh volcanic aerosol layer, however we did not find any report of large volcanic eruption in 2015. We will discuss about origin of the layer.

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