A polarization diversity elastic backscatter lidar has been deployed in the equatorial island of Palau in Feb-Mar 2016. The system operated unattended in the Atmospheric Observatory of Palau Island, from 15 February to 25 March 2016, working automatically 8 hrs per night, delivering 3650 atmospheric profiles (5 min average). Each profile extends from 1 to 30 km height. Here the dataset is presented and discussed in terms of the temperature structure of the UTLS, as derived from co-located PTU soundings. During the timeframe of the campaign it was found that the main convective outflows peaks roughly 3 km below the Cold Point Tropopause, its occurrence associated with cold anomalies in the upper troposphere (UT). When warm UT anomalies occur, presence of particles is restricted to a 5 km wide layer centered 5 km below the CPT. Particles have been detected also slightly above the CPT. These particles are depolarizing, with depolarization values generally lower than those encountered in the TTL. Results show a correlation between presence of optically detectable particles and cold anomalies above the Cold Point. A backtrajectory analysis coupled with satellite observation of convective activity was
performed, in order to link the presence of cirrus with their convective origin and inferred lifetime, or possibly with in-situ formation processes.