

# **Temperature dependence of cirrus properties over Chung-Li**

S.K. Das<sup>1</sup>, C.W. Chiang<sup>1,2</sup>, J.B. Nee<sup>1</sup>

1. Department of Physics, National Central University, Chungli, Taiwan

2. Research Center for Environmental Changes, Academia Sinica, Nankang, Taiwan

## **Abstract**

Cirrus cloud plays a major role in the global radiation budget and accurate parameterization of their radiative properties in different geographical location is highly essential for numerical modeling. By using the polarization diversity lidar (Nd:YAG, 532 nm), the cirrus cloud has been studied over Chung-li (24.54°N, 121.10°E, altitude 167m MSL) over a period of 1999 to 2006. In this paper, temperature dependence of cirrus properties over Chung-li will be presented. The temperature profiles have been obtained from the vaisala type radiosonde launched daily from the lidar nearby site. Analysis of the observation and measurement will give the statistical properties of cirrus which shows that it is generally observed in the altitude range of range of 10 ~ 17 km, with the midcloud temperature in the range of -85°C to -40°C. The dependence of total depolarization ratio, cloud extinction and optical depth with temperature is also been studied. The results will be presented in details in the conference.