

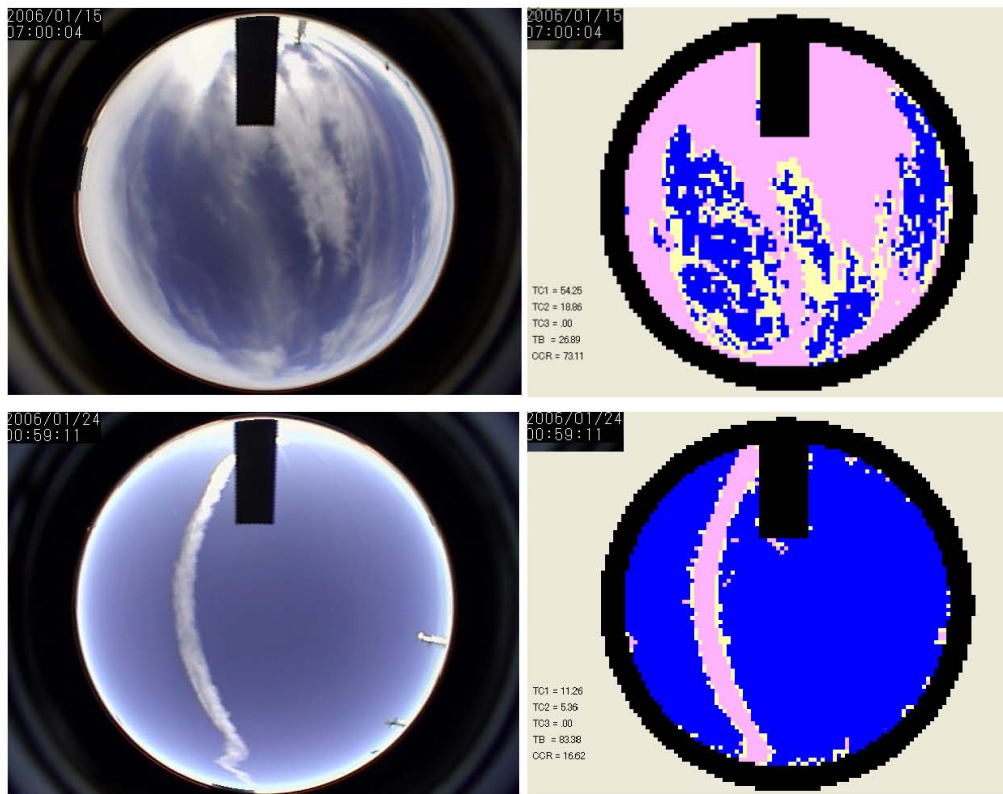
## Cloud Properties Observed by an All-Sky Camera System at the South Pole Station

M. Yabuki<sup>1</sup>, M. Shiobara<sup>1</sup>, and E.G. Dutton<sup>2</sup>

<sup>1</sup>National Institute of Polar Research, Kaga 1-9-10, Itabashi-ku, Tokyo 173-8515, Japan; +81 3-3962-4740, Fax: +81 3-3962-5719, E-mail: shio@nipr.ac.jp

<sup>2</sup>NOAA Earth System Research Laboratory, Boulder, CO 80305

Since December 2005, an all-sky camera system is acquiring sky images for monitoring cloud conditions over the Atmospheric Research Observatory in the Amundsen-Scott South Pole Station as a collaborative research activity of NOAA ESRL and National Institute of Polar Research. The system includes a 3-color CCD camera with a fish-eye lens and a PC to process JPEG images for every ten minutes on a continuous basis during the polar daylight period. Such all-sky images are helpful not only for investigation of clouds and precipitation but also for judging clear/cloudy sky conditions in application to aerosol and/or radiation studies, although the observation is limited in November to March due to polar darkness and low temperature for normal operations. In this presentation, statistical features of the South Pole cloud properties, e.g., cloud amount and types, are shown from observation for three years in the Antarctic summer season.



**Figure 1. Top:** all-sky image (left) of cirrus cloud over SPO taken by the Prede PSV-100 all-sky camera, 0700UTC, January 15, 2006, and cloud analysis image (right) corresponding to the left-hand side image. Cloud coverage was estimated to be 73 % from the analysis. **Bottom:** Same as the top panels but for contrail over SPO, 0059UTC, January 24, 2006. Cloud coverage was estimated to be 17 % from the analysis.