## Cloud Condensation Nuclei Measurements in Different Monsoon Conditions over India during CAIPEEX-2009

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Atmospheric aerosol particles serving as cloud condensation nuclei (CCN) are key elements of the hydrological cycle and climate. Elevated concentrations of CCN tend to increase the concentration and decrease the size of droplets in cloud. A field campaign CAIPEEX-09 was conducted to measure CCN and other cloud microphysical parameters to investigate the interaction between cloud and aerosols at various altitudes over the Indian region. The CCN concentration measured during in different monsoon conditions over India are compared. The CCN measurements near west coast region and at Bangalore during good monsoon conditions on July 5, 2009, are compared with those observed at Bareilly during weak monsoon conditions on 24 August 2009. The CCN concentration measured near west coast during active monsoon conditions is higher than that observed at same altitude over northern India near Bareilly during weak monsoon conditions. The preliminary results show that the air mass reaching to west coast during monsoon season contains large amount of sea salt aerosols coming along with cross equatorial flow while continental aerosols are mainly observed in northern Indian region during weak monsoon conditions. The results are discussed with respect to the backward trajectories computed at these locations to investigate the origin of CCN and aerosols in these regions. The role of CCN in cloud microphysics will be illustrated.