

Cloud Aerosol Interaction and Precipitation Enhancement Experiment



CAIPEEX Science meeting 17– 18 October 2013



Indian Institute of Tropical Meteorology

Agenda

17-18 October 2013

Meghdoot Auditorium, IITM, Pune

09:00AM - 09:30 AM *Registration*

Inaugural function

09:30 AM -09:40 AM *Inauguration*

09:40 AM -09:50 AM *Welcome address by Prof. B. N. Goswami*

Oral Presentations

17th October 2013

Theme I. Aerosol and radiation

Chair: (Dr. R. Krishnan)

10:00 AM -10:30 AM B. Padmakumari	Airborne measurements of atmospheric aerosols and their variability during CAIPEEX B. Padmakumari
10:30 AM -10:50 AM M.P.Raju	Chemical Characterization of Atmospheric Aerosols during CAIPEEX-IGOC campaign at Mahabubnagar, Andhra Pradesh during 2011. M.P.Raju, P.D.Safai and P.S.P.Rao
10:50 AM -11:10 AM A.K. Srivastava	Boundary layer aerosol characteristics at Mahabubnagar during CAIPEEX-IGOC: Modeling the optical and radiative properties. A.K. Srivastava, D.S. Bisht, S. Tiwari
11:10 AM -11:30 AM P.P. Leena	Seasonal Variability in Aerosol and CCN as Observed over a High Altitude Site in Western Ghats. P.P. Leena, G. Pandithurai, V. Anil Kumar, P. Murugavel, R. Patil, S. Sonbawne and K. K. Dani

11:30 AM -11:50 AM *Tea break*

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Theme II: Aerosol-Cloud interactions

Chair: (Prof. S. Ramachandran, Dr. Suresh Babu)

11:50 AM -12:20 PM Pandithurai, G	Aerosol indirect effect, dispersion bias and precipitation susceptibility of monsoon clouds G. Pandithurai
12:20 PM -12:50 PM Mahen Konwar	Aerosol control on depth of warm rain in convective clouds. Mahen Konwar, R. S. Maheskumar, J. R. Kulkarni, E. Freud, B. N. Goswami, and D. Rosenfeld
12:50 PM -01:10 PM S. Bera	Evaporation-entrainment feedback in cumulus congestus: Effect of pollution. S. Bera, G. Pandithurai, Thara V. Prabhakaran
01:10 PM -01:30 PM V. Anil Kumar	Aerosol-CCN-Cloud microphysical properties relationships as observed from a high-altitude site. V. Anil Kumar, G. Pandithurai, P. Murugavel, R. S. Maheskumar, Rohit Patil, P.P. Leena, S. Sonbawne and K. K. Dani
01:30 PM-02:30 PM	Lunch break
02:30 PM-04:00 PM	Poster session
03:30PM-04:00 PM	Tea

Theme III: Cloud microphysics and precipitation

Chair: (Dr. M. Rajeevan, Dr. Rajeev)

04:00 AM -04:30 AM Maheshkumar R. S	Salient Cloud Microphysical Features Observed during the CAIPEEX Maheshkumar R. S
04:30 AM -04:50 AM Savita B. Morwal	Microphysics of monsoon clouds during CAIPEEX 2009 Savita B. Morwal, B. Padma Kumari, R. S. Maheskumar and J. R. Kulkarni
04:50 AM -05:20 AM Dr. S. N. Tripathi	Role of Chemical Composition on CCN activity and Evaluation of Microphysics Parameterizations in WRF against CAIPEEX Profiles Dr. S. N. Tripathi
05:20 PM -05:40 PM Mukhopadhyay / Anupam Hazra	Cloud-Aerosol Interaction during Tropical Cyclones over Bay of Bengal: An investigation using convection-permitting model simulation. Mukhopadhyay and Anupam Hazra
05:40 PM -06:00 PM S. Patade	A new Ice Nucleation Parameterization scheme based on CAIPEEX observations for Monsoon Season over India Sachin Patade, T. V. Prabha, RS Masheshkumar, Pradeep Kumar Pallath

07:30 PM Dinner at IITM Guest house

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Theme III: Cloud microphysics and precipitation (cont.)

Chair: (Dr. Chandra Venkataraman, Dr. P. Pradeep kumar)

09:30 AM -09:50 AM G. Harikishan	Monsoon cloud properties over a rain shadow region in India from ground-based radiometric measurements. G. Harikishan, B. Padmakumari, R.S. Maheskumar and G. Pandithurai
09:50 AM -10:10 AM Resmi E A	Salient features of the diurnal cycle of convection initiation observed during CAIPEEX 2011 experiment using C-band radar observation. Resmi E A, P Murugavel, Roelf Burger and Thara Prabhakaran
10:10 AM -10:30 AM Kaustav Chakravarty	Study of Tropical rainfall by using ground-based multifrequency radars and disdrometer observation. Kaustav Chakravarty, Subrata Das, Sachin Deshpande, K. Madhuchandra Reddy and G.Pandithurai

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10:30 AM-10:50 AM **Tea break**

10:50 AM -11:10 AM Subrata Kumar Das	The observational characteristics of storm structure in Western Ghats region. Subrata Kumar Das and Sachin Deshpande
11:10 AM -11:30 AM Kalapureddy, M.C.R	Monsoon and pre-monsoon cloud characteristics: Insights from Cloud radar observations. Kalapureddy, M.C.R., Murgavelu, P., Sachin, M.D., Kaustav, C., Subrata Das

Theme IV: Cloud Dynamical interactions

Chair: (Dr. Rama Govindarajan)

11:30 AM -11:50 AM Sachin Deshpande	Vertical profiles of horizontal divergence and wind using X-band Doppler radar observations. Sachin Deshpande, N. Dhangar, S. Das, M.C.R. Kalapureddy, K. Chakravarty, S. Sonbawne and M. Konwar
11:50 PM -12:10 PM Subharthi Chowdhuri	Turbulent exchange in an unstable and near neutral monsoon boundary layer during CAIPEEX-IGOC-2011 Subharthi Chowdhuri, Thara Prabhakaran, Anand Karipot, T.Dharamraj, M.N.Patil, K.G.McNaughton
12:10 PM -12:30 PM R.D. Ruchith	Statistical characteristics of Monsoon LLJ over IGOC site. R.D. Ruchith, Kalapureddy, M.C.R., and Raj, P.E

01:00 PM -02:00 PM: **Lunch break**
02:00 PM -03:45 PM: **Panel Discussion (Panelists: TBD)**
03:45 PM- 04:00 PM: **Closing remarks and Vote of Thanks**

Poster Presentations

	Title	Author(s)
Theme I. Aerosol and Radiation		
1.	Observations of New Particle Formation and Cloud Condensation Nuclei at a rural tropical station in Southern India during CAIPEEX (IGOC, 2011).	Murugavel, P. Pandithurai, G. Prabha, T. Padma Kumari B. and Chate, D. M.
2.	Characteristics of carbonaceous aerosols in PM _{2.5} and its inorganic constituents over Delhi, India.	S. Tiwari, D.S.Bisht and A.K Srivastava
3.	Observational Evidences of Black Carbon induced cloud burning over Northeast India	A. S. Panicker, G. Pandithurai, P.D.Safai, S. Dipu, T. V. Prabha and M. Konwar
4.	Impact of elevated aerosol layer on the cloud macrophysical properties prior to monsoon onset	Dipu, S., Thara V. Prabha, G. Pandithurai, J. Dudhia, G. Pfister, K. Rajesh and B. N. Goswami
5.	Aerosol characteristics at Mahabubnagar: physical and chemical properties.	D. S. Bisht, S. Tiwari, A. K. Srivastava and M. K. Srivastava
6.	Mechanisms linked to elevated aerosol layers near Ganges valley	Prabha, T. V., A. Karipot, D. Axisa, B. Padma Kumari, R. S. Mahes Kumar, M. Konwar, J. R. Kulkarni, and B. N.

	Goswami
7. Absorbing aerosols facilitate transition of Indian monsoon breaks to active spells.	MG Manoj, PCS Devara, PD Safai, BN Goswami.
8. Vertical profiles of black carbon aerosols over the urban locations in South India	P.D. Safai, M.P. Raju, R.S. Maheshkumar, J.R. Kulkarni, P.S.P. Rao, P.C.S. Devara

Theme II. Aerosol-Cloud interactions

9. Cloud droplet spectral characteristics over Indo-Gangetic valley	Prabha, T. V., S. Patade, G. Pandithurai, A. Khain, D. Axisa, P. Pradeep-Kumar, R. S. Maheshkumar, J. R. Kulkarni, and B. N. Goswami,
10. Cloud Aerosol Interaction over the peninsular India: inferences from model simulations	Prabha T. V., Gayatri Kulkarni, S. Dipu, Mahen Konwar, G. Pandithurai

Theme III. Cloud microphysics and precipitation

11. Simulation of cloud microphysical responses to condensation nuclei, giant condensation nuclei and ice nuclei concentration in cloud and precipitation formation processes.	Anupam Hazra
12. Understanding Cloud Microphysical Parameters during break and active phases of the Indian summer monsoon using CAIPEEX- data.	G.R. Chinthalu, T. Dharmaraj, T. Venugopal, A.R. Dhakate P.E. Raj, and P.C.S. Devara
13. Comparative study of aircraft and satellite derived aerosol and cloud microphysical parameters during CAIPEEX - 2009 over the Indian region	B. Padmakumari, R.S. Maheshkumar, G. Harikishan, J.R. Kulkarni and B.N. Goswami
14. On the parameterization of cloud droplet effective radius using CAIPEEX aircraft observations for warm clouds in India	Nair S., Sanjay J., Pandithurai G., Maheskumar, Kulkarni J.R
15. Bimodal droplet size distribution in monsoon clouds	Prabha, Thara V., A. Khain, R. S. Maheshkumar, G. Pandithurai, J. R. Kulkarni, M. Konwar, B. N. Goswami
16. First rain drop formation in monsoon clouds	Thara V. Prabha, A. Khain, Nir Benmoshe, G. Pandithurai, M. Ovchinnikov
17. Evaluation of bulk microphysics schemes with bin scheme and CAIPEEX observations of deep convective clouds	Gayatri Kulkarni, T. V. Prabha, B. Lynn, A. Khain

Theme IV Cloud and Dynamical Interactions

18. Assessment of monsoon conditions over Mahabubnagar during CAIPEEX-IGOC-2011 experiment.	Narkhedkar S. G.*, Ghanekar S. P., Nath A. S., Dani K. K.
19. Carbon dioxide and heat fluxes during monsoon-2011 season over Mahabubnagar by eddy covariance technique	M N Patil, T Dharmaraj, R T Waghmare, T V Prabha and J R Kulkarni
20. Airborne CO ₂ and other trace gases observations during CAIPEEX-2010 airplane campaign.	Yogesh K. Tiwari, K. Ravi Kumar
21. Double mixing line: inferences from CAIPEEX observations and LES	Neelam Malap and T. V. Prabha
22. Structures and Variability of Aerosols and Clouds: Dual Wavelength Mie-Raman lidar Observations.	Y Jaya Rao, Sanjoy K Saha, P C S Devara, Sunil Sonbawne and K K Dani
23. GPS Radiosonde Profiling of Thermodynamical parameters over a rain-shadow region during IGOC - CAIPEEX 2011	Asha Nath, Dani K.K., Sonbawne S., Ruchith
24. Turbulence characteristics in the atmospheric surface layer over a peninsular India station during IGOC	T. Dharmaraj, M.N.Patil, R.T.Waghmare, Thara Prabhakaran, and G.R. Chinthalu
25. Role of Information Technology in CAIPEEX	V.V. Sapre, S.U. Ahtale, R.R. Joshi

General Information posters

26. CAIPEEX Phase I overview poster	General Poster
27. CAIPEEX Phase II overview poster	General poster
28. CAIPEEX -IGOC overview poster	General Poster
29. HACPL overview poster	General Poster
30. HACPL radars	General Poster

Note:

Lead talks: 25 min for presentation and 5 min for discussion
Contributory talks: 15 min for presentation and 5 min for discussions
Posters to be displayed throughout the program.