

# 5

## Knowledge products: Publications, presentations.....

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## 5.1 Publications in Journals

**V Anil Kumar, G K Patra, R P Thangavelu, A Sahu and P S Jayalekshmy**, Transport Layer Protocol Exploitation Attempts for DoS/DDoS Attacks: Issues and Challenges, *Journal of computer Science*, Vol. 2 (4), 272-280, 2007.

C P Rajendran, K Rajendran, B P Duarah, S Baruah and **A Earnest**, Reply to Comment by R Bilham on Interpreting the Style of Faulting and Paleoseismicity Associated with the 1897 Shillong, Northeast India, Earthquake: Implications for Regional Tectonism, *Tectonics*, 25, TC2002, 2006

**P Goswami and K V Ramesh**, A Comparison of Interpolated NCEP (I-NCEP) Rainfall with High-Resolution Satellite Observations, *Geophys Res Lett*, 33 (19), L19821, 10, 2006.

**K C Gouda and M M Ali**, Variation of Mixed Layer Depth in The North Indian Ocean during 2003, *Nature, Environment and Pollution Technology*, Techno science Publications, 5(2), 2006.

**S O Imoni, F O Otunta and T R Ramamohan**, Embedded Implicit Runge-Kutta Nystrom Method for Solving Second-Order Differential Equations, *International Journal of Comp Mathematics*, 83(11), 777-784, 2006.

R Krishnan, **K V Ramesh**, B K Samala, G Meyers, J M Slingo, M J Fennessy, Indian Ocean-monsoon Coupled Interactions and Impending Monsoon Droughts, *Geophys. Res. Lett.*, 33, L08711, 2006

**Imtiyaz A Parvez**, F Vaccari and G F Panza, Influence of Source Distance on Site-effects in Delhi City, *Current Science*, 91(6), 827-835, 2006.

**Imtiyaz A Parvez**, On the Bayesian Analysis of the Earthquake Hazard in the North East Indian Peninsula, *Natural Hazards*, 40, 397-412, 2007.

**Imtiyaz A Parvez** and G F Panza, Seismic Hazard in Asia, *Current Science*, 92(6), 715-716, 2007

**G Prathap, V Senthilkumar** and S Manju, Mesh Distortion Immunity of Finite Elements and the Best-Fit Paradigm, *Sadhana*, 31, 505-514, 2006.

**G Prathap**, S Manju and **V Senthilkumar**, The Unsymmetric Finite Elements and the Best-fit Paradigm, *Structural Engineering and Mechanics*, 26(1), 31-42, 2007.

P Jafarali, Mohammed Ameen, Somenath Mukherjee and **Gangan Prathap**, Variational Correctness and Timoshenko Beam Finite Element Elastodynamics, *Journal of Sound and Vibration*, Volume 299 (1-2), 196-211, 2007.

**G Prathap**, Stay Cartesian, or go natural? : A Comment on the article "Supernatural QUAD4: A Template Formulation" by C. A. Felippa [Comput Methods Appl Mech Engrg, 195 (2006)], *Computer Methods in Applied Mechanics and Engineering*, 196(9-12), 1847-1848, 2007.

**K Rajendran** and A Kitoh, Modulation of Tropical Intraseasonal Oscillations by Ocean-Atmosphere Coupling, *Journal of Climate*, 19, 366-391, 2006.

T Nakazawa and **K Rajendran**, Relationship between Tropospheric Circulation over the Western North Pacific and Tropical Cyclone Approach/Landfall on Japan, *J Meteor Soc Japan*, 85(2), 81-99, 2007.

**S Sajani**, T Nakazawa, A Kitoh and **K Rajendran**, Ensemble Simulation of Indian Summer Monsoon Rainfall by an Atmospheric General Circulation Model, *J Meteor Soc Japan*, 85(3), 213-231, 2007.

**S Sajani**, S Naseema Beegum and K Krishna Moorthy, The Role of Low-frequency Intraseasonal Variation in the Anomalous Indian Summer Monsoon Rainfall of 2002, *J Earth Sys Sci*, 116(2), 149-158, 2007.

**S Sajani**, S Naseema Beegum and K Krishna Moorthy, Indian Summer Monsoon Rainfall Simulation by an AGCM Ensemble System, *J Marine Atmos Sci*, 3(1), 1-9, 2007.

**S Sajani**, S Naseema Beegum and K Krishna Moorthy, The Role of Intraseasonal Oscillations in the Evolution of Indian Summer Monsoon, *J Marine Atmos Sci*, 3(1), 26-38, 2007.

**K Sangeeta**, Somenath Mukherjee and **G Prathap**, Conservation of Best-Fit Paradigm at an Element Level, *Int J Comp Met in Engg Sc and Mech*, 7, 1-12, 2006.

**P S Swathi** and **C Kalyani Devasena**, Simulation of the Upper Ocean Thermal Structure at the WHOI Arabian Sea Mooring Site, *Indian Journal of Marine Sciences*, 35(2), 123-131, 2006.

## 5.2 Publications in Books/Proceedings

**V Anil Kumar**, **G K Patra**, **R P Thangavelu** and **P S Jayalekshmy**, An Overview of TCP Related Denial-of-Service Attacks and Associated Challenges, *National Workshop on Towards Securing End Systems in the Networked World-Challenges and Possible Solutions*, Hyderabad, 9-18, 27 June 2006.

**K C Gouda** and **P Goswami**, Advance Warning of Heavy Rainfall using a General Circulation Model: A Vulnerability Management Strategy, *Proceedings of ESSP, Open Science Conference*, Beijing, China, 9-12 Nov 2006.

**M Mukul**, M Jaiswal and A K Singhvi, Out-of-Sequence Active Deformation in Lesser Himalaya of Darjeeling-Sikkim, India, Abstracts, *International Symposium on Quaternary Studies*, Physical Research Laboratory, Ahmedabad, 32-33, 2006.

A Matin and **M Mukul**, Small Scale Structures in the North Kalijhora Thrust Sheet in the Gorubathan Area, Darjeeling Himalaya, West Bengal, Abstracts, *National Seminar on Geology, Mineral and Water Resources of Sikkim*, Geological Survey of India, Sikkim Unit, Eastern Region, 10-11, 2006.

K Bhattacharyya, G Mitra and **M Mukul**, The Geometry and Implication of a Foreland Dipping Duplex, The Rangit Duplex Darjeeling-Sikkim Himalayas, *India: Geological Society of America Abstracts with Programs*, 38, 7, 413, 2006.

**M Mukul**, Monsoon Induced Erosion and Recent Deformation in the Himalayan Mountain Belt, Abstracts, *Second Indo-US Frontiers of Science Symposium*, U S National Academy of Sciences, Irvine, California, USA. January 19, 2007.

**Imtiyaz A Parvez**, G F Panza and F Vaccari, Source Distance Effects on Site Response along a 2-D Cross-Section of Delhi City, *Proceedings Asian Seismological Commission, 5th General Assembly*, Armenia, 18-21 Oct. 2004, 2006.

**G K Patra**, **T R Ramamohan**, **V Anil Kumar** and **R P Thangavelu**, Improvement in Security Level of First Generation Chaotic Communication System by Mutual Synchronization, *14th International Conference on Advanced Computing and Communication*, Proceedings of International Conference on ADCOM 2006, IEEE Press, NIT, Surathkal, 195-198, 20-23 December 2006.

R Krishnan, **K V Ramesh**, B K Samala, M Majumdar and Swapna, Ocean-Atmosphere Coupled Interactions Associated with Monsoon Intra-Seasonal Variability, *Proceedings of Tropmet 2006, National Symposium on Role of Meteorology in National Development*, 1, B15, 21-23 November 2006.

**Sridevi Jade** and **M S M Vijayan**, Water Vapour Estimation at Few GPS Sites in Indian Subcontinent, *Coordinates*, 4(2), 30-32, 2006.

**Sridevi Jade** and **M S M Vijayan**, GPS Meteorology: Atmospheric Water Vapour Estimation using Global Positioning System in Indian Subcontinent, *Location 2006: 2nd International Conference on Positioning, Navigation and Timing*, 7-9 June 2006, Bangalore.

## 5.3 Presentations in Conferences/Symposiums/ Workshops/ Seminars

**V Anil Kumar**, **G K Patra**, **R P Thangavelu** and **Antaryami Sahu**, Transport Layer Protocol Exploitation Attempts for DOS/DDOS Attacks: Issues and Challenges, *National Conference on Cryptography and Network Security*, Coimbatore, 22-23 September 2006.

**V Anil Kumar**, Sophistication in Denial-of-Service Attacks: Conventional Brute Force vs. Low-rate Tactical Flooding, *South Asian Network Operational Group Conference*, Colombo, Sri Lanka, 14-24, January 2007.

**K C Gouda** and **P Goswami**, Strategies for Improved Forecasting of Extreme Weather Events, *National Symposium on Role of Meteorology in National Development (TROPMET-2006)*, *Indian Meteorological Society*, IITM, Pune, 21-23 November, 2006

**K C Gouda**, Simulation of Cyclone Mala: An experiment with HWRF-V2.0, *Short term course on Advanced Training Program and Tutorial on Hurricane-WRF Modelling System of Environmental Modelling Center, NCEP, USA*, Centre for Atmospheric Sciences, IIT-Delhi, 1-12 January, 2007.

**K C Gouda**, C-MMACS Multi-scale Modelling and 4D-Var Assimilation with GCM, *Brainstorming Meeting for Improved Weather Forecasting*, Ministry of Earth Sciences, New Delhi, 06-08 February, 2007.

**K C Gouda** and **P Goswami**, Advance Forecasting of the day of Onset of Monsoon Rainfall over India, *National Workshop on Dynamical Long-range Forecasting of Indian Monsoon: Status, User Needs and Grand Challenges*, C-MMACS, Bangalore, 12-13 February, 2007.

**C Kalyani Devasena**, **P S Swathi**, **M K Sharada** and **K S Yajnik**, Impact of Mixed Layer Depth and Sea Surface Height Variations on Chlorophyll Distribution, *ESSP Open Science Conference*, Beijing, China, 9-12 November, 2006

**M Mukul**, Kinematics of Active Deformation in the Himalayan Wedge. Tectonics Geomorphology: Landform Evolution and Quaternary Tectonics Meeting, Wadia Institute of Himalayan Geology, Dehradun, 10 November, 2006

**M Mukul**, Active Deformation and Earthquake Hazard in the Indian Sub-Continent, *Seminar on New Innovations in Science and Technology*, Indian National Science Academy, New Delhi, 27 November, 2006.

**M Mukul**, The Interaction between Climate and Tectonics in the Himalayan Mountain Belt, *2nd National Frontiers of Science (NATFOS) for Young Indian Scientists*, Indian National Science Academy, New Delhi, 3 December, 2006.

**Imtiyaz A Parvez**, Quantification of Earthquake Hazard in India, *Earth System Physics Section: Associates Joint Colloquium Towards Excellence for a Scientific Network to Mitigate Seismic Hazard in Asia*, ICTP, Trieste, Italy, 9 June, 2006.

**Imtiyaz A Parvez** and **K Madhukar**, Site

Response in Ahmedabad City using Microtremor Array Observations, *6th General Assembly of Asian Seismological Commission*, Bangkok, 7-10 November, 2006.

**Imtiyaz A Parvez**, **M Mridula** and **S S Rai**, Coda Wave Attenuation for Andaman Region using Local Earthquakes, *6th General Assembly of Asian Seismological Commission held in Bangkok*, 7-10 November, 2006.

**Imtiyaz A Parvez**, An Effort towards the Assessment of Earthquake Hazard in the Indian Subcontinent, *Workshop on Seismic Hazard in Asia*, ICTP, Italy, 4-8 December, 2006.

**G K Patra**, **V Anil Kumar**, **R P Thangavelu** and **T R Ramamohan**, Secure Cryptographic Key from Random Binary Strings by Public Discussion, *National Workshop on Cryptology 2006, Pune*, 8-10 September, 2006.

**G K Patra**, **T R Ramamohan**, **V Anil Kumar** and **R P Thangavelu**, Mutual Chaotic Synchronization for Secure Communication, *National Conference on Cryptography and Network Security*, Coimbatore, 22-23 September, 2006.

**G K Patra**, **V Anil Kumar** and **R P Thangavelu**, Non-number Theoretic Key-exchange Algorithms: The Challenges, *National Conference on Cyber security*, Bangalore, 8-10 March, 2007.

**T Nakazawa** and **K Rajendran**, Role of Large-scale Circulation on Tropical Cyclone Landfall in Japan, *27th conference on Hurricane and Tropical Meteorology*, AMS, Monterey, 23-28 April, 2006.

**T Nakazawa** and **K Rajendran**, TRMM PR/TMI Rainfall over Ocean in 3G68 Datasets, Progress in Hazardous Storm Research using Evolving Global Precipitation Measurement (GPM) & Global Water, *European Geosciences Union General Assembly 2006*, Vienna, 02-07 April, 2006.

**K Rajendran**, Large-scale Impact on Monsoon Variability in Current CGCMs, *National Workshop on Dynamical Long-range Forecasting of Indian Monsoon: Status, User Needs and Grand Challenges*, C-MMACS, Bangalore, 12-13 February, 2007.

**K Rajendran** and J Srinivasan, The Impact of Physical Assimilation of Vertical Profiles of Latent Heating and Moistening on Short Range Numerical Weather Prediction, *National Workshop on Megha-Tropiques Science and Applications*, SAC, Ahmedabad, 20-22 March, 2007.

**K Rajendran**, Assimilation of Heating and Moisture Profiles in an Empirical Cumulus Parameterization Scheme for a Global Spectral GCM, *Megha-Tropiques First National Workshop*, IISc, Bangalore, 10-14 July, 2006.

**K V Ramesh**, High Resolution Rainfall Variability over South Asia, *CSIR-NSFC Workshop*, National Institute of Oceanography, Goa, 4-6 December, 2006.

**Sridevi Jade**, Perspectives of National GPS Programme: Crustal Deformation Studies in Indian Subcontinent, *Location 2006, 2nd International Conference on Positioning, Navigation and Timing*, Bangalore, 7-9 June, 2006

**P S Swathi, T R Anderson, M K Sharada** and **K S Yajnik**, A New Coupled Physical-Biological-Chemical Model for the Indian Ocean, *Workshop on Sustained Indian Ocean Biogeochemical and Ecological Research (SIBER)*, NIO, Goa, 3-6 October, 2006.

**M S M Vijayan**, GPS Meteorology: Atmospheric Water Vapour Estimation using Global Positioning System in Indian Subcontinent, *Location 2006, 2nd International Conference on Positioning, Navigation and Timing*, Bangalore, 9 June, 2006

**K S Yajnik, P S Swathi** and **M K Sharada**, Semi-Annual Periodicity in the Tropical Indian Ocean: A Diagnostic Investigation, *Workshop on Sustained Indian Ocean Biogeochemical And Ecological Research (SIBER)*, NIO, Goa, 3-6 October, 2006.

#### 5.4 Participation in Conferences/ Symposias/ Workshops/ Training Programmes

**V Anil Kumar**

*Workshop on Ethical Hacking and Counter Measures*, Computer Society of India,

Bangalore, 16-17 December 2006.

*South Asian Network Operational Group Conference (SANOG-9)*, Colombo, Sri Lanka, 20-24 January 2007

**K C Gouda**

*Brainstorming Session on Cyclone Observation and Prediction: Current Status and Future Challenges*, Centre for Atmospheric Sciences, IIT-Delhi, 6 January, 2007.

**G K Patra**

*National Workshop on Towards Securing End Systems in the Networked World-Challenges and Possible Solutions*, Hyderabad, 27th June 2006.

*Workshop on User Centric High Performance Computing*, NITK, Surathkal, 21 December 2006

*International Symposium on Ad Hoc and Ubiquitous Computing (ISAHUC'06)*, NITK, Surathkal, 22 December 2006.

**Imtiyaz A Parvez**

*Seismology in India*, Institute of Seismological Research (ISR), Gandhinagar, 12-13 March, 2007.

*Seismic Hazard in Asia*, The Abdus Salam International Centre for Theoretical Physics (AS-ICTP), Trieste, Italy, 4-8 Dec, 2007.

**N Prabhu**

*International Conference on Free Open Source Softwares in India (FOSS.IN 2006)*, Linux Bangalore, Tata Auditorium IISc, Bangalore, 24-26 November, 2006.

*14th International Conference on ADCOM 2006*, NITK, Surathkal, Surathkal, 20-23 Dec, 2006.

**Suchanda Ray**

*E-Journal Users Training Workshop*, ICAST, NAL, Bangalore, 20-21 September 2006.

**Surendra Kumar and V Senthilkumar**

*International Conference on Trends in Product Lifecycle- Modelling, Simulation and Synthesis (PLMSS06)*, Indian Institute of Science, Bangalore, 18-20 December, 2006.

**R P Thangavelu and N Prabhu**

*Training Programme on Information Security Management System*, CSIR Human Resource Development Centre, Ghaziabad, 22-25 January 2007

## 5.5 Internal Reports

**R Murali and G Prathap**, *Field-consistency Aspects of Locking in a Geometrically Non-linear Beam Formulation*, RR CM 0601, July 2006.

**P Goswami and K V Ramesh**, *Evaluation and Analysis of NCEP Rainfall with High-resolution Observations*, RR CM 0602, August 2006.

**K S Yajnik, M K Sharada and P S Swathi**, *Seasonal Anomaly Decomposition : A New Diagnostic Method for Semi-Annual Periodicity in the Indian Ocean*, RR CM 0603, November 2006.

**S Himesh and P Goswami**, *Impact of Size and Coverage of the Model Domain on the Simulation of Meso-Scale Events*, RR CM 0701, January 2007.

Jean Luc Chatelain, **I A Parvez** and Bertrand Guillier, *Damages from Earthquake in Restricted Areas are not Necessarily Related to Local Site Amplifications: Site response Evaluation from Ambient Variation H/V in Anjar (India)*, RR CM 0702, February 2007.

**P Goswami and K V Ramesh**, *Extreme Rainfall Events: Vulnerability Analysis of Disaster Management and Observation System Design*, RR CM 0703, March 2007.

**Stella Margaret A**, *Knowledge Creation and Dissemination During 2005*, PD CM 0601, April 2006.

**Imtiyaz A Parvez and K Madhukar**, *Site Response in Ahmedabad City using Microtremor Array Observation : A Preliminary Report*, PD CM 0602, June 2006.

**M S M Vijayan, P Dileep Kumar, Anil Earnest, Nilof S Pasha and Sridevi Jade**, *Second Remeasurement of GPS Locations in the South-Western Peninsular Shield of India*, PD CM 0603, June 2006.

**M B Ananda, P Dileep Kumar and Sridevi Jade**, *GPS Remeasurement in the Garhwal Himalayas, (Sept – Oct 2005)*, PD CM 0604, June 2006.

**Anand Kumar**, *Isotropic Numerical Scheme for Partial Differential Equation*, PD CM 0605, July 2006.

**Anand Kumar**, *Isotropic Numerical Simulation of a Material Microstructure*, PD CM 0606, July 2006.

**M B Ananda, P Dileep Kumar and Sridevi Jade**, *Re-measurement of GPS Control Points (Feb–Mar 06) in Andaman and Nicobar Islands to Assess the Post-seismic Deformation of the Islands*, PD CM 0607, July 2006.

**Raghavendra Rao, Nilof S Pasha, Anil Earnest and Sridevi Jade**, *Third Re-measurement of GPS Locations in South-Western Peninsular Shield of India (April – June 2006)*, PD CM 0608, October 2006.

**Stella Margaret A**, *Graphs Summarising Activity Trends during the Last Six Years (2000 – 2005)*, PD CM 0609, November 2006.

**M B Ananda, P Dileep Kumar and Sridevi Jade**, *Remeasurements of GPS Geodetic Control Points in the Ladakh Himalayas (July 2006)*, PD CM 0610, December 2006.

**Imtiyaz A Parvez** and Giuliano F Panza, *ICTP-OEA Network Project Report on the First Meeting/Workshop on Seismic Hazard in Asia*, PD CM 0701, January 2007.

**Stella Margaret A**, *Knowledge Creation and Dissemination during 2006*, PD CM 0702, January 2007.

**N K Indira, P S Swathi, V K Gaur, M Vikram Reddy and B C Bhatt**, *High Precision CO<sub>2</sub> Concentration Measurements at Pondicherry and their Inversion to Improve Quantitative estimates of Global Sources and Sinks of Carbon*, PP CM 0601, March 2006.

**T R Ramamohan** and **I A Parvez**, *Analysis of Microtremor Data using Non-linear Time-Series Analysis*, PP CM 0602, June 2006.

**I A Parvez** and E A Rogozhin, *Earthquake Hazard Assessment Study using the GIS Technology*, PP CM 0603, October 2006.

**I A Parvez** and K Surya Prakasam, *Crustal Structure along East-West Transect Corridors in Dharwar Craton*, PP CM 0604, October 2006.

**K Rameshan**, Alexey Lyubushin, **N K Indira**, Valeri Gitis, **Imtiyaz A Parvez** and Sergey Cherpantsev, *Advanced Mathematical Modelling and Artificial Intelligence System in the Analysis of Geophysical Time Series*, PP CM 0701, February 2007.

**G K Patra** and **V Anil Kumar**, A report on first Meeting of the Sub-committee of C-MMACS Advisory Committee for Review of on-going R & D Projects at C-MMACS (2005-06) Special Publication CM 0701, January 2007 (Restricted)

## 5.6 Invited Talks

### V Anil Kumar

*TCP Related DoS Attacks and Associated Challenges: From Evaluation to State-of-the-Art*, National Conference on Cyber Security, Bangalore, 8-10, March 2007.

### G K Patra

*Data Security*, Department of Electronic Sciences, Berhampur University, Orissa, 27 November 2006

### Imtiyaz A Parvez

*Quantification of Earthquake Hazard in India*, The Abdus Salam International Centre for Theoretical Physics (AS-ICTP), 9 Jun 2006

*An Effort towards the Assessment of Earthquake Hazard in the Indian Subcontinent*, The Abdus Salam International Centre for Theoretical Physics (AS-ICTP), 8 Dec 2006

*Earthquake Hazard Assessment Study using the GIS Technology*, PAC in the Earth Sciences, Hydrology, Ecology & Environment Protection of the International Division, DST, 22 Aug-2006

*Advanced Mathematical Modelling and Artificial Intelligence System in the Analysis of Geophysical Time Series (Earth, Ocean And Atmosphere)*, PAC in the Earth Sciences, Hydrology, Ecology & Environment Protection of the International Division, DST, 22 Aug 2006

*Earthquake Hazard Quantification in India and Artificial Intelligence Systems in the Analysis of Geophysical Time Series; Present Scenario and Future Prospects*, Institute of the Physics of Earth, Moscow, 16 Oct 2006

*Site response in Ahmedabad* : A Preliminary Result, Third Meeting of PAMC on Seismicity Programme of DST held at Mizoram University, Aizawl, 26 Feb 2007

*Crustal Structure along East-West Transect Corridors in Dharwar Craton*, sixth meeting of PAMC-DCS of DST held at Indian Institute of Geomagnetism, New Mumbai, 30 Mar 2007

*Probabilistic Models and Its Application in Earthquake Hazard Assessment*, Institute of Seismological Research, Gandhinagar, 8 Mar 2007

*Deterministic Seismic Hazard Assessment in India and Adjacent Areas*, Institute of Seismological Research, Gandhinagar, 8 Mar 2007

*Attenuation of Strong Motion Amplitudes in Himalayas*, Institute of Seismological Research, Gandhinagar, 9 Mar 2007

*Microzonation and Site-Specific Ground Motion Modeling in Delhi City*, Institute of Seismological Research, Gandhinagar, 9 Mar 2007

*Site-Response Based on Microtremor Array Observation in Ahmedabad City*, Institute of Seismological Research, Gandhinagar, 10 Mar 2007

*Coda Q Attenuation Studies in NW Himalayas and Andaman Region*, Institute of Seismological Research, Gandhinagar, 10 Mar 2007

### Gangan Prathap

*Peirce, Einstein and Popper and the Logic of Discovery*, Keynote Lecture, Course on Inverse Modelling, C-MMACS, Bangalore, 19 June 2006



*Modelling Indian Science – Outlay vs. Outcome*, Seminar on Evaluating and Rating of Research and Educational Institutions in India, INSA, New Delhi, 5 October 2006

*Nature of Scientific Creativity*, Valedictory Address: Intl Conf on Frontiers in Fluid Mechanics, Bangalore University, 28 October 2006

*Getting Smart about Indian Science*, Inaugural Address, Workshop on Smart Structure, Aero Soc of India, Bangalore, 2 December 2006

### **M Mukul**

Active Tectonics of the Shillong Plateau Using GPS Geodesy. North East Space Application Centre, Shillong. March 31, 2007.

Internal Active Deformation in the Himalayan Wedge: Insights from the Darjeeling-Sikkim Tibet Wedge, Delhi University, Delhi, July 5, 2006

A kinematic approach to estimating earthquake hazard in the Indian sub-continent in the light of Global Positioning System measurements (GPS) measurements, Amrita Vishwa Vidyapeetham, Coimbatore, October 28, 2006.

### **M K Sharada**

*Modelling of Marine Ecosystem in the Northern Indian Ocean*, Central Fisheries Research Institute, Mumbai, May 2006

### **M S M Vijayan**

*Estimation of Tropospheric Precipitable Water Vapour and Crustal deformation using GPS*, Gandhigram Rural University, Gandhigram, 9 November 2006.

## **5.7 Workshops/Conferences/Scientific Meetings at C-MMACS**

*Tutorial Workshop on Atmospheric Inverse Modelling*, C-MMACS, 27 November – 2 December 2006

There is a strong consensus amongst scientists and planners today that the earth's climate is entering a warm episode, nudged

primarily by human activities of fossil fuel burning and landuse changes that inject steadily increasing amounts of CO<sub>2</sub> into the atmosphere. Some inverse model results have already yielded certain counter-intuitive results, notably that both the southern ocean and the tropical lands are neutral with respect to the atmospheric carbon budget, whereas these regions are generally regarded to be important sinks for Carbon.

**Dr. Peter Rayner** from LSCE, France, a distinguished inverse modeller in atmospheric transport delivered lectures in this workshop and made it interactive with tutorials. He was addressing on atmospheric transport and its inversion with uncertainty using different methods like Bayesian Inversion, adjoint & variational methods, Kalman filtering and compare them with classical matrix inversion. He also spoke about nonlinear problems in atmospheric transport and also regional inversion.

*National Discussion Meeting on Dynamical long-Range Forecasting of Indian Monsoon: Status, User Needs, and Grand Challenges*, 12-13 February 2007.

A two-day national discussion meeting on Dynamical Long-Range Forecasting of Indian Monsoon: Status, User Needs and Grand Challenges, was held at National Aeronautics Laboratories (NAL) Bangalore during 12-13 February 2007 sponsored by Department of Science & Technology (DST), Government of India. Dr B Bhattacharjee, Member, National Disaster Management Authority, Govt. of India presided the inaugural function and Shri D R Sikka, Chairman Weather and Climate Research Programs of DST, India delivered the lead talk.

The focus of the meeting was to develop a multi-agency, multi-institutional R&D platform in the country for improving skill in Extended Range Monsoon Prediction. The distinguishing features of the proposed programme are its emphasis on realizable (as against potential) skill in ERMP at user-oriented scale and lead. The strong focus helped the participants to present and discuss in detail various scientific and implementation issues in ERMP in an interactive manner.

## 5.8 Guest Lectures

**Albert Tarantola**, Gravimetry, Relativity and the GPS Systems, Institut de Physique du Globe de Paris, Universite de Paris, France, 22 June 2006

**Yogesh Tiwari**, Constraints of Satellite Derived CO<sub>2</sub> on Carbon Sources and Sinks, Indian Institute of Tropical Meteorology, New Delhi, 01 September 2006

**Jerome Lewandowski**, Gyrokinetic Simulations of Plasma Turbulance on Massively Parallel Supercomputers, Princeton University, USA, 04, January 2007.

## 5.9 In-house Seminars

**Prabhu N**, The C-MMACS Knowledge Management Utility, 12 April 2006

**K C Gouda**, *Advance Forecasting of the day of Onset of Monsoon Rainfall over India*, 11 February 2007.

**P Goswami**, A Dynamical Forecast Platform for Onset, Duration and Intensity of Fog, 14 February 2007.

## 5.10 Visitors at C-MMACS

A O Gilko, A Ponomarov, A Nokolaev  
Scientists, Inst of Phy of Earth, Moscow  
14-15 April 2006

Richard Michael Russell  
V P, CRAY Inc, USA  
25 April 2006

William John Trestrail  
GM, Asia Pacific, SGI, Australia  
24 May 2006

P K Gupta, Professor  
IIT, Roorkee  
11 June 2006 – 5 July 2006

Kail Wallace  
Researcher, Univ of Boulder, USA  
19 June – 4 July 2006

Hiroshi Takahara, Marketing Chief Manager  
Nobuyuki Hayashibe, Sales Manager  
Yasuhiro Terashima, Marketing Manager  
NEC Corp, Japan  
28 August 2006

David Romeo Arambhan, Marketing Manager  
NEC Solutions Asia Pacific PVT Ltd  
28 August 2006

Tomoko Asai, Researcher, Tokyo  
Takao Ohe, IT Advisor, Singapore  
Venkataraman Narayanan, Consultant  
JETRO, Singapore  
28 August 2006

Gerardo Cisneros  
Scientist, SGI, Mexico  
14 September 2006

Richard Michael Russel  
V P Asia Pacific, CRAY Inc, USA  
26 September 2006

Jorge L Sarmiento, Lucia Acostia  
Professor, Princeton Univ, USA  
26-28 Septmber 2006

Eduardo Valtierra  
Director, Chamber of Electronics, Mexico  
27-28 Septmeber 2006

Fureo Honsell  
Vice Chancellor, Univ of Udine  
5 October 2006

Paul Fillery, James Reaney  
Intl Sales Manager, BlueArc UK Ltd, USA  
11 October 2006

David Warren Arnold  
USA  
12 October 2006

Shinobu Yoshida, GM  
Vaishnavi Kancharla, Researcher  
Hitachi Asia Ltd, Singapore  
13 October 2006

Hideto Noguchi, Researcher  
Hitachi Asia Ltd, Japan  
13 October 2006

Thomas Rubb Anderson  
Professor, National Oceanography Centre, UK  
7-15 October 2006

Charlotte Acton  
Univ of Cambridge, UK  
19 October 2006  
7-14 October 2006

Robert Kerrich  
Professor, Dept of Geological Sc, Canada  
23-25 October 2006

Shankar Rao J  
COA  
RRL, Jorhat  
12 December 2006

Ajit Tyagi  
IAF, New Delhi  
28 November 2006

Marc Lipinsici & Suzanne Srodogora  
ILEDE, France  
21 February 2007  
4 January 2007

Petet Antonine, Peskine Christian, Chossat  
Pascal, Hardin Therese, Nepomiastchy Pierre,  
Puech Claude, Rogelio Lozano, Bruno Rouot  
INRIA. CNRS, MPPU, France  
29 March 2007