Dr. K. Srinivasa Ramanujam
Asst. Professor
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Academics

1. Ph.D, Mechanical Engineering, IIT Madras, 2012
   Concentration: Thermal Engineering
   Dissertation: "Retrieval of Geo-Physical Parameters from Microwave Radiances"

2. M.S in Engineering by Research, Mechanical Engineering, SASTRA University, 2008
   Concentration: Thermal Engineering
   Dissertation: "Enclosure Analysis of Various Elements Accounting for the Shadowing Effect"

3. B.E, Mechanical Engineering, Madras University, 2003

Grants and Fellowship

- Awarded INSPIRE Faculty Fellowship Scheme Grant in 2012

Experience

1. Postdoc Researcher, Oct 2012 – May 2014
   Colorado State University
   "Simulation of GPM radar observations using WRF-TMI-TRMM PR combined database"

2. Project Officer, Jan 2008 - Sept 2012
   IIT Madras
   "Developed algorithm for geo-physical parameter retrievals for the MEGHA-TROPIQUES mission"
   Sponsoring Agency: Space Application Centre, ISRO, Ahmedabad

3. Research Assistant for a book project, 2012
   IIT Madras
   "Essentials of Thermal System Design and Optimization authored by Prof. C. Balaji"

4. Teaching Assistant, Jul-Nov 2009, Jul-Nov 2010
   IIT Madras
   Course: Concepts in Engineering Design

5. Summer Intern, May 2010 - Jul 2010.
   Colorado State University, Fort Collins

6. Senior Research Fellow, Aug 2005 - Dec 2007
   SASTRA University
   "Thermal Analysis of various objects in an enclosure accounting for shadowing effect"
   Sponsoring Agency: Vikram Sarabhai Space Centre, ISRO, Trivandrum

7. Junior Research Fellow, Dec 2004 - Jul 2005
   SASTRA University
   "Correlation and ANN techniques for ablation problems"
   Sponsoring Agency: Department of Science and Technology, Govt. of India.

Research Skills

Extensive knowledge of Radiative transfer through emitting, absorbing and scattering media.

Extensive knowledge of non-linear optimization tools such as particle filtering, genetic algorithm, simulated annealing, conjugate gradient technique, supervised and adaptive neural networks, Bayesian inference.

Limited knowledge of Weather Research and Forecast (WRF) model.

Presentations

- Srinivasa Ramanujam. K (2012). Profile Correction Algorithm using TRMM PR and TMI measurements in a Bayesian framework. Paper presented at the Opportunities and Challenges in Monsoon Prediction in a Changing Climate, OCHAMP conference at Indian Institute of Tropical Meteorology, Pune.
- Srinivasa Ramanujam. K (2009). A Neural Network based Fast Forward Model for the Simulation of Microwave Brightness Temperatures. Paper presented at the International Conference on MEGHA-TROPIQUES Science and Applications at, ISRO, Bangalore.
- Srinivasa Ramanujam. K (2009). A New Rain Screening Algorithm Based on Non-Dimensional Microwave Brightness Temperatures. Paper presented at the International Conference on MEGHA-TROPIQUES Science and Applications at ISRO, Bangalore.

Workshops

- Data Assimilation Research Program (DARP), International Centre for Theoretical Sciences, July 2011.
- ISRO-NOAA workshop on "Atmospheric Remote Sensing from Space Platform", March 2008.

Publications

Journal Papers

1. D. Subramani, R. Chandrasekar, K. Srinivasa Ramanujam and C. Balaji (2013), A new ensemble based data assimilation algorithm to improve track prediction of tropical cyclones, Natural Hazards, (available online)
2. C. Balaji and K. Srinivasa Ramanujam (2013), Retrieval of the vertical rainfall structure from the MADRAS imager data of the Megha- Tropiques satellite, Current Science, 104, 12, 1627-1634.
3. C. Praveen, K. Srinivasa Ramanujam and C. Balaji (2012) An Artificial Neural Network Based Fast Radiative Transfer Model for Simulating Infrared Sounder Radiances, Journal of Earth System Science, 121, 4, 891-901.
4. K. Srinivasa Ramanujam, R. Chandrasekar, D. Subramani and C. Balaji (2012) On the Effect of Non-Raining Parameters in Retrieval of Surface Rain Rate Using TRMM PR And TMI Measurements, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 5, 3, 735-743.
5. K. Srinivasa Ramanujam, R. Chandrasekar and C. Balaji (2011) A new PCA-ANN algorithm for retrieval of rainfall structure in precipitating atmosphere, International Journal of Numerical Methods for Heat and Fluid Flow, 21, 8, 1002-1025.

6. K. Srinivasa Ramanujam and C. Balaji (2011) Radiative Transfer Simulations for the MADRAS Imager of Megha-Tropiques, Journal of Earth System Science, 120, 1-18.
7. S. Abishek, K. Srinivasa Ramanujam and S. S. Katte (2007) View Factors between Disc/Rectangle and Rectangle in Parallel and Perpendicular Planes, Journal of Thermophysics and Heat Transfer, 21, 236-239.
8. K. Srinivasa Ramanujam, S. Abishek, and S. S. Katte (2006) Differential View Factor for a Rectangle with Intervening Parallelepiped or Sphere, Journal of Thermophysics and Heat Transfer, 20, 604-607.

Conference Papers

1. V. Chandrasekar, K. Srinivasa Ramanujam and Minda Le (2013), Methodology to simulate GPM radar observations from combined radiometer and radar measurements from TRMM and cloud models, IEEE International Geoscience and Remote Sensing Symposium, Melbourne, Australia.
2. R. Chandrasekar, D. Subramani, K. Srinivasa Ramanujam and C. Balaji (2012) Study of the impact of combined TMI-PR retrieved rainy observations in regional weather forecast models in an ensemble Bayesian framework, International Conference on Ensemble Methods in Geophysical Sciences" November 12 to 16 , Toulouse, France.
3. K. Srinivasa Ramanujam, D. Subramani and C. Balaji (2012) Profile Correction Algorithm using TRMM PR and TMI measurements in a Bayesian framework, Opportunities and Challenges in Monsoon Prediction in a Changing Climate, OCHAMP, Indian Institute of Tropical Meteorology, Pune.
4. C. Balaji and K. Srinivasa Ramanujam (2011) Retrieval of rainfall from MADRAS Microwave Imager on Megha Tropiques, IEEE International Geoscience and Remote Sensing Symposium, Vancouver, Canada.
5. K. Srinivasa Ramanujam and C. Balaji (2010), A Fast Polarized Microwave Radiative Transfer Model for a Raining Atmosphere, International Heat Transfer Conference (IHTC-14), Washington DC, USA.
6. C. Balaji, M. Chaturvedi, K. Srinivasa Ramanujam, V. Chandrasekar, C. Nguyen and M. Martinez (2010) What Is The Information Content Of TRMM Precipitation Radar For Determining Radiometer Observations And Vice Versa?, IEEE International Geoscience and Remote Sensing Symposium, Hawaii, USA.
7. K. Srinivasa Ramanujam and C. Balaji (2009) A New Rain Screening Algorithm Based on Non-Dimensional Microwave Brightness Temperatures, International Conference on MEGHA-TROPIQUES Science and Applications, ISRO, Bangalore, 66-67.
8. C. Balaji, K. Srinivasa Ramanujam, S. P. Venkateshan, R. M. Gairola, A. Sarkar and V. K. Agarwal (2009) A Neural Network based Fast Forward Model for the Simulation of Microwave Brightness Temperatures, International Conference on MEGHA-TROPIQUES Science and Applications, ISRO, Bangalore, 64-65.