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EDUCATION

2011/08 – 2017/04 Ph.D. (Earth and Atmospheric Physics) JNTUH, Hyderabad, India.

2005/07 – 2007/05 M.Sc. (Physics) Osmania University, Hyderabad, India.

2001/06 – 2004/05 B.Sc. (Physics) Acharya Nagarajuna University, Guntur, India

EMPLOYMENT

2019/07 - present Post Doctor Fellow RCEC, Academia Sinica, Taiwan

2015/04 - 2019/05 Assistant Professor VBIT, Hyderabad, India.

2009/04 - 2015/03 Research Scholar (ISRO-Project) VBIT, Hyderabad, India.

HONORS & AWARDS

2013 Received personal appreciation from former president Prof APJ Abdul Kalam

2005 Received Gold medal during graduation

PROFESSIONAL SERVICE

- Worked as South East Asia regional representative from Young Earth System Scientist (YESS) community during May, 2017 - April, 2019
- Worked as Executive committee member for India Meteorological Society (Hyderabad) during 2014-2016.

RESEARCH INTEREST

My area of research is middle atmospheric dynamics, general circulation of atmosphere and stratosphere troposphere exchange. The study of the atmosphere is one of the oldest intellectual pursuits. The atmosphere cannot be ignored; it is our environment. Although our everyday experiences of the earth's atmosphere are, in general, confined to those phenomena which occur in the lower few kilometers, it does in fact extend up to an altitude of several hundred kilometers. In order to understand the many and varied approximations and assumptions of small-scale features such as individual clouds, regional, global weather prediction or climate models, it is necessary to study the various wave motions which are present in the atmosphere. The identification and

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appreciation of the mechanisms of these waves will allow us to isolate or eliminate certain wave types and to better understand the viability and effectiveness of commonly made approximations such as assuming hydrostatic balance.

RESEARCH HIGHLIGHTS

1. Atmospheric dynamics and importance of waves:

Atmospheric waves play an important role in the general circulation of dynamics. These waves transport energy and momentum from lower region to higher ones. Gravity waves, Tides, Equatorial waves, MJO and QBO are few of them. Most of my previous work is concentrating on the generation mechanisms and propagation of these waves along both temporal and spatial resolutions. My work was also included wave characteristics during solar eclipse, cyclones and thunderstorms. The major work has also been carried out on ozone variations and importance of these waves in changing their variations.

2. Current research

Global warming is the biggest threat to the mankind in the present scenario. Water vapor is an important trace gas and plays a crucial role in the radiation budget of global atmosphere. The presence of water vapor in the troposphere absorbs the radiation, whereas, in stratosphere it leads to global warming. The real mechanisms for transporting the water vapor into stratosphere are still sparse. Injection of this water vapor due to gravity wave breaking is one such kind of mechanism. My current research is mainly focusing on gravity wave breaking during thunderstorms and convection and their possible transportation of water vapor into upper atmosphere.

REPRESENTATIVE PUBLICATIONS (*: corresponding author)

Top 5 publications

Gopa Dutta, M. C. Ajay Kumar, P. Vinay Kumar, M. Venkat Ratnam, M. Chandrashekar, Y. Shibagaki, **Salauddin Mohammad**, and H. A. Basha: 2009, Characteristics of high-frequency gravity waves generated by tropical deep convection: Case studies, *Journal of Geophysical Research*, 114, D18109, doi:10.1029/2008JD011332.

Gopa Dutta, P. Vinay Kumar, M. Venkat Ratnam, **Salauddin Mohammad**, M.C. Ajay Kumar, P.V. Rao, K. Rahaman, H.A. Basha: 2011, Response of tropical lower atmosphere to annular solar eclipse of 15 January, 2010, *Journal of Atmospheric and Solar-Terrestrial Physics*, 73, 2011 1907–1914, doi: 10.1016/j.jastp.2011.04.025.

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G. Dutta, **Salauddin Mohammad**, M. Satyakumar, Y. K. Reddy, P. Vinay Kumar, P. V. Rao, and M. C. Ajay Kumar: 2012, Quasi-two-day wave in the lower atmosphere over Hyderabad during summer of 2009, *Ann. Geophys.*, 30, 57–66, 2012, doi:10.5194/angeo-30-57-2012.

Rauser, F., M. Alqadi, S. Arowolo, N. Baker, J. Bedard, E. Behrens, N. Dogulu, L. Gatti Domingues, A. Frassoni, J. Keller, S. Kirkpatrick, G. Langendijk, M. Mirsafa, **Salauddin Mohammad**, A. Naumann, M. Osman, K. Reed, M., V. Schemann, A. Singh, S. Sonntag, F. Tummon, D. Victor, M. Villafuerte, J. Walawender, and M. Zaroug: 2016, Earth System Science Frontiers - an ECS perspective. *Bull. Amer. Meteor. Soc.* doi:10.1175/BAMS-D-16-0025.1.

Dutta, G., Kumar, P. V., and **Salauddin Mohammad**: 2017, Retrieving characteristics of IGW parameters with least uncertainties using hodograph method, *Atmos. Chem. Phys.* doi:10.5194/acp-2017-29.

List of publications

Dutta, G., Kumar, P. V., and **Salauddin Mohammad**: 2017, Retrieving characteristics of IGW parameters with least uncertainties using hodograph method, *Atmos. Chem. Phys.* doi:10.5194/acp-2017-29.

Vinay Kumar, P., Dutta, G., **Salauddin Mohammad** and Venkateswara Rao, B: 2017, Climatology of diurnal tide and its longterm variability in the lower middle atmosphere over a tropical station, *Theor.appl Climatol.*, DOI 10.1007/s00704-016-1871-1.

Rauser, F., M. Alqadi, S. Arowolo, N. Baker, J. Bedard, E. Behrens, N. Dogulu, L. Gatti Domingues, A. Frassoni, J. Keller, S. Kirkpatrick, G. Langendijk, M. Mirsafa, **Salauddin Mohammad**, A. Naumann, M. Osman, K. Reed, M., V. Schemann, A. Singh, S. Sonntag, F. Tummon, D. Victor, M. Villafuerte, J. Walawender, and M. Zaroug: 2016, Earth System Science Frontiers - an ECS perspective. *Bull. Amer. Meteor. Soc.* doi:10.1175/BAMS-D-16-0025.1.

Vinay Kumar, P., G. Dutta, M. V. Ratnam, E. Krishna, B. Bapiraju, B. V. Rao, and **Salauddin Mohammad**, 2016: 2016, Impact of cyclone Nilam on tropical lower atmospheric dynamics. *Adv. Atmos. Sci.*, 33(8), 955–968, doi: 10.1007/s00376-016- 5285-x.

Salauddin Mohammad, Dutta, G., Rao, B. V., and Vinay Kumar, P.: 2015, Equatorial wave activity during 2007 over Gadanki, a tropical station, *J. Earth Syst. Sci.* 124, No. 4, June 2015, pp. 897–908.

Salauddin Mohammad, Dutta, G., Vinay Kumar, P., Krishna, E., Ajay Kumar, M. C., Rao, B. V. and Rao, P. V.: 2014, Madden Julian Oscillations over a tropical Indian station using radar and ERA data of winds, *Indian, J. of Radio and Space Phys.*, 43, 48-56.

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G. Dutta, **Salauddin Mohammad**, M. Satyakumar, Y. K. Reddy, P. Vinay Kumar, P. V. Rao, and M. C. Ajay Kumar: 2012, Quasi-two-day wave in the lower atmosphere over Hyderabad during summer of 2009, *Ann. Geophys.*, 30, 57–66, 2012, doi:10.5194/angeo-30-57-2012.

Gopa Dutta, P. Vinay Kumar, M. Venkat Ratnam, **Salauddin Mohammad**, M.C. Ajay Kumar, P.V. Rao, K. Rahaman, H.A. Basha: 2011, Response of tropical lower atmosphere to annular solar eclipse of 15 January, 2010, *Journal of Atmospheric and Solar-Terrestrial Physics*, 73, 2011 1907–1914, doi: 10.1016/j.jastp.2011.04.025.

Gopa Dutta, M. C. Ajay Kumar, P. Vinay Kumar, M. Venkat Ratnam, M. Chandrashekar, Y. Shibagaki, **Salauddin Mohammad**, and H. A. Basha: 2009, Characteristics of high-frequency gravity waves generated by tropical deep convection: Case studies, *Journal of Geophysical Research*, 114, D18109, doi:10.1029/2008JD011332.

Others (Invited Talks · Keynote speech et al.)

Attended MST12 radar school held at London, Canada during 12–16 May, 2009.

Attended MST12 workshop held at London, Canada during 17 – 23 May, 2009 and presented a paper.

Attended COSPAR 2012 held at Mysore, India and presented a paper during 14 - 22 July, 2012.

Attended SPARC 2014 held at Queenstown, New Zealand during 12-17 January, 2014.

Attended YESS Community workshop held at Offenbach, Germany during 28–30 October, 2015.

Attended SPARC GA 2018 held at Kyoto, Japan during 1 – 5 October, 2018.