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CURRICULUM VITAE

Dr. Quan Gan

Post-doc Fellow

Department of Physics and Astronomy

Clemson University

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EDUCATION:

Ph.D. (2007-2012)
School of Electronic Information, Wuhan University, China
Dissertation: Observations of Lower Mesospheric Inversion Layers and Atmosphere Solar Tides
Supervisor: Prof. Shaodong Zhang

Bachelor degree (2002-2006)
School of Electronic Information, Wuhan University, China

PROFESSIONAL EXPERIENCE

Post-doc Fellow (08/2016 – Now)
Department of Physics and Astronomy, Clemson University, SC, USA
Research supervisor: Prof. Jens Oberheide
Project: Lower – upper atmosphere coupling

Visiting scholar (07/2015 – 01/2016)
National Center for Atmosphere Research, Boulder, CO, USA
Research collaborator: Dr. Wenbin Wang

Post-doctoral Research Associate (11/2013 – 08/2016)
Department of Physics and Astronomy, University of Louisville, USA
Research mentor: Prof. Jian Du

Project： Validation of atmosphere tides in extend CMAM30 and study of tidal long-term variations.

Lecturer (01/2013 – 10/2013)
School of Electronic Information, Wuhan University, China

SELECTED PROCEEDINGS, CONFERENCE PRESENTATIONS

12/2017 presented a poster at AGU fall conference, New Orleans, Louisiana, USA
06/2017 presented a seminar at CEDAR conference, Keystone, Colorado, USA
06/2015 presented a poster at CEDAR conference, Seattle, Washington, USA
06/2014 presented a poster at CEDAR conference, Seattle, Washington, USA
06/2013 presented a seminar in the 15th Symposium of Solar-Earth Space Physics, "Long-term trends of atmospheric temperature observed by TIMED/SABER
09/2012 presented a seminar in the 8th Symposium on Space Weather, 'TIMED/SABER observations of lower mesospheric inversion layers at low and middle latitudes', Jinan, China
08/2010 presented a seminar in the 7th Symposium on Space Weather, 'Characteristics of lower mesospheric inversion layers at low and middle latitudes', Shanghai, China

PEER REVIEWED JOURNAL PUBLICATIONS

1. ***Gan, Q.***, J. Oberheide, J. Yue, and W. Wang (2017), Short-term variability in the ionosphere due to the nonlinear interaction between the 6-day wave and migrating tides, *Journal of Geophysical Research: Space Physics*, 122, 8831-8846, doi:10.1002/2017JA023947.

2. ***Gan, Q.,*** J. Du, V. I. Fomichev, W. E. Ward, S. R. Beagley, S. Zhang, and J. Yue (2017), Temperature responses to the 11 year solar cycle in the mesosphere from the 31 year (1979–2010) extended Canadian Middle Atmosphere Model simulations and a comparison with the 14 year (2002–2015) TIMED/SABER observations, *Journal of Geophysical Research: Space Physics*, *122*(4), 4801-4818, doi:10.1002/2016JA023564.

3. ***Gan, Q.,*** W. Wang, J. Yue, H. Liu, L. C. Chang, S. Zhang, A. Burns, and J. Du (2016), Numerical simulation of the 6 day wave effects on the ionosphere: Dynamo modulation, *Journal of Geophysical Research: Space Physics*, *121*(10), doi:10.1002/2016JA022907.

4. ***Gan, Q.,*** J. Yue, L. C. Chang, W. B. Wang, S. D. Zhang, and J. Du (2015), Observations of

thermosphere and ionosphere changes due to the dissipative 6.5-day wave in the lower thermosphere, *Annales Geophysicae*, *33*(7), 913-922, doi:10.5194/angeo-33-913-2015.

5. ***Gan, Q.***, J. Du, W. E. Ward, S. R. Beagley, V. I. Fomichev, and S. D. Zhang (2014), Climatology of the diurnal tides from eCMAM30 (1979 to 2010) and its comparison with SABER, *Earth Planets and Space*, *66*, doi:10.1186/1880-5981-66-103.

6. ***Gan, Q***., S. D. Zhang, and F. Yi (2012), TIMED/SABER observations of lower mesospheric inversion layers at low and middle latitudes, *J Geophys Res-Atmos*, *117*, doi:10.1029/2012jd017455.

7. Zhang, S. D., C. M. Huang, K. M. Huang, Y. H. Zhang, Y. Gong, and ***Q. Gan*** (2017), Vertical wavenumber spectra of three-dimensional winds revealed by radiosonde observations at midlatitude, *Annales Geophysicae*, *35*(1), 107, doi:10.5194/angeo-35-107-2017.

8. Huang, K. M., A. Z. Liu, S. D. Zhang, F. Yi, C. M. Huang, Y. Gong, ***Q. Gan,*** Y. H. Zhang, and R. Wang (2017), Simultaneous upward and downward propagating inertia-gravity waves in the MLT observed at Andes Lidar Observatory, *Journal of Geophysical Research: Atmospheres*, *122*(5), 2812-2830, doi:10.1002/2016JD026178.

9. Jia, Y., S. D. Zhang, F. Yi, C. M. Huang, K. M. Huang, Y. Gong, and ***Q. Gan*** (2016), Variations of Kelvin waves around the TTL region during the stratospheric sudden warming events in the Northern Hemisphere winter, *Annales Geophysicae*, *34*(3), 331-345, doi:10.5194/angeo-34-331-2016.

10. Li, H. Y., C. M. Huang, S. D. Zhang, K. M. Huang, Y. Zhang, Y. Gong, ***Q. Gan***, and Y. Jia (2016), Low-frequency oscillations of the gravity wave energy density in the lower atmosphere at low latitudes revealed by US radiosonde data, *Journal of Geophysical Research: Atmospheres*, *121*(22), doi:10.1002/2016JD025435.

11. Huang, C., S. Zhang, Q. Zhou, F. Yi, K. Huang, Y. Gong, Y. Zhang, and ***Q. Gan*** (2015), WHU VHF radar observations of the diurnal tide and its variability in the lower atmosphere over Chongyang (114.14 degrees E, 29.53 degrees N), China, *Annales Geophysicae*, *33*(7), 865-874, doi:10.5194/angeo-33-865-2015.

12. Jia, Y., S. D. Zhang, F. Yi, C. Huang, K. M. Huang, ***Q. Gan***, and Y. Gong (2015), Observations of gravity wave activity during stratospheric sudden warmings in the Northern Hemisphere, *Sci China Technol Sc*, *58*(6), 951-960, doi:10.1007/s11431-015-5806-3.

13. Ruan, H. B., J. Du, M. Cook, W. B. Wang, J. Yue, ***Q. Gan***, X. K. Dou, and J. H. Lei (2015), A numerical study of the effects of migrating tides on thermosphere midnight density maximum, *Journal of Geophysical Research-Space Physics*, *120*(8), 6766-6778,

doi:10.1002/2015ja021190.

14. Zhang, Y. H., S. D. Zhang, C. M. Huang, K. M. Huang, Y. Gong, and ***Q. Gan*** (2015), The interaction between the tropopause inversion layer and the inertial gravity wave activities revealed by radiosonde observations at a midlatitude station, *J Geophys Res-Atmos*, *120*(16), 8099-8111, doi:10.1002/2015jd023115.

15. Huang, K. M., A. Z. Liu, S. D. Zhang, F. Yi, C. M. Huang, ***Q. Gan,*** Y. Gong, Y. H. Zhang, and R. Wang (2015), Observational evidence of quasi-27-day oscillation propagating from the lower atmosphere to the mesosphere over 20 degrees N, *Annales Geophysicae*, *33*(10), 1321-1330, doi:10.5194/angeo-33-1321-2015.

16. Huang, K. M., S. D. Zhang, F. Yi, C. M. Huang, ***Q. Gan***, Y. Gong, and Y. H. Zhang (2014), Nonlinear interaction of gravity waves in a nonisothermal and dissipative atmosphere, *Annales Geophysicae*, *32*(3), 263-275, doi:10.5194/Angeo-32-263-2014.

17. Zhang, Y. H., S. D. Zhang, C. M. Huang, K. M. Huang, Y. Gong, and ***Q. Gan*** (2014), Diurnal variations of the planetary boundary layer height estimated from intensive radiosonde observations over Yichang, China, *Sci China Technol Sc*, *57*(11), 2172-2176, doi:10.1007/s11431-014-5639-5.

18. Shuai, J., C. M. Huang, S. D. Zhang, F. Yi, K. M. Huang, ***Q. Gan***, and Y. Gong (2014), Elevated stratopause events during 2003-2011 revealed by SABER/TIMED temperature observations, *Chinese Journal of Geophysics-Chinese Edition*, *57*(8), 2465-2472, doi:10.6038/Cjg20140808.

19. Shuai, J., S. D. Zhang, C. M. Huang, F. Yi, K. M. Huang, ***Q. Gan***, and Y. Gong (2014), Climatology of global gravity wave activity and dissipation revealed by SABER/TIMED temperature observations, *Sci China Technol Sc*, *57*(5), 998-1009, doi:10.1007/s11431-014-5527-z.

20. Zhang, S. D., C. M. Huang, K. M. Huang, F. Yi, Y. H. Zhang, Y. Gong, and ***Q. Gan*** (2014), Spatial and seasonal variability of medium- and high-frequency gravity waves in the lower atmosphere revealed by US radiosonde data, *Annales Geophysicae*, *32*(9), 1129-1143, doi:10.5194/Angeo-32-1129-2014.

21. Huang, C. M., S. D. Zhang, F. Yi, K. M. Huang, Y. H. Zhang, ***Q. Gan***, and Y. Gong (2013), Frequency variations of gravity waves interacting with a time-varying tide, *Annales Geophysicae*, *31*(10), 1731-1743, doi:10.5194/angeo-31-1731-2013.

22. Huang, K., A. Liu, S. Zhang, F. Yi, C. Huang, ***Q. Gan***, Y. Gong, and Y. Zhang (2013), A nonlinear interaction event between a 16-day wave and a diurnal tide from meteor radar observations, *Annales Geophysicae*, *31*(11), 2039-2048, doi:10.5194/angeo-31-2039-2013.

23. Huang, K. M., A. Z. Liu, X. Lu, Z. H. Li, ***Q. Gan***, Y. Gong, C. M. Huang, F. Yi, and S. D. Zhang (2013), Nonlinear coupling between quasi 2 day wave and tides based on meteor radar observations at Maui, *J Geophys Res-Atmos*, *118*(19), 10936-10943, doi:10.1002/jgrd.50872.

24. Huang, K. M., S. D. Zhang, F. Yi, C. M. Huang, ***Q. Gan***, Y. Gong, and Y. H. Zhang (2013), Third-order resonant interaction of atmospheric gravity waves, *J Geophys Res-Atmos*, *118*(5), 2197-2206, doi:10.1002/Jgrd.50252.

25. Huang, Y. Y., S. D. Zhang, F. Yi, C. M. Huang, K. M. Huang, ***Q. Gan***, and Y. Gong (2013), Global climatological variability of quasi-two-day waves revealed by TIMED/SABER observations, *Annales Geophysicae*, *31*(6), 1061-1075, doi:10.5194/angeo-31-1061-2013.

26. Zhang, S. D., F. Yi, C. M. Huang, K. M. Huang, ***Q. Gan***, Y. H. Zhang, and Y. Gong (2013), Latitudinal and altitudinal variability of lower atmospheric inertial gravity waves revealed by US radiosonde data, *J Geophys Res-Atmos*, *118*(14), 7750-7764, doi:10.1002/jgrd.50623.

HONOR/AWARDS

06/2015 Awarded 2015 National Post-Doctorate Oversea Program in China

06/2013 Awarded 2013 Academic Innovation Prize of Wuhan University in China.

03/2013 Awarded Excellent Paper Prize of Junior Scientist in the 15th Symposium of Solar-Earth Space Physics in China.

11/2012 Awarded National Fellowship of Graduate Student in China.