

 搜索

首页 > 科研成果 > 论文论著

## 2016年度正式发表论文

文章来源： 发布时间：2020-03-18 【小】 【中】 【大】

**2016**年实验室在国内外学术期刊发表学术论文共**63**篇，其中**SCI(E)**论文**41**篇。获得专利授权和著作权登记共**3**项。发表专著**1**部。

### (一) 2016年**SCI (E)**论文清单

2016年实验室在国内外学术期刊发表学术论文共63篇，其中SCI(E)论文41篇。获得专利授权和著作权登记共3项。发表专著1部。

### (一) 2016年**SCI (E)**论文清单

1. Bai, J., Guenther, A., Turnipseed, A., Duhl, T., Yu S., Wang B., 2016. Seasonal variations in whole-ecosystem BVOC emissions from a subtropical bamboo plantation in China. *Atmos. Environ.*, 124, 12–21.
2. Chen Z., J. Xu, X. Hu, H. Chen, W. Chen, K. Wei, J. Bian, W. Tian, S. Zhang, R. Ro ng, X. Du. Advances in the researches of the middle and upper atmosphere in China i n 2014 ? 2016. *Chin. J. Space Sci.*, 2016, 36(5): 738–752. DOI:10.11728/cjss2016.05.7 38
3. Chen, Y., Y. F. Cheng, N. Ma, R. Wolke, S. Nordmann, S. Schuettauf, L. Ran, and et al., Sea salt emission, transport and influence on size-segregated nitrate simulati on: a case study in northwestern Europe by WRF-Chem, *Atmos. Chem. Phys.*, 16, 12081– 12097, 2016.

4. Gu, Y., H. Liao, and J. Bian, 2016: Summertime nitrate aerosol in the upper troposphere and lower stratosphere over the Tibetan Plateau and the South Asian summer monsoon region. *Atmos. Chem. Phys.*, 16, 6641–6663, [www.atmos-chem-phys.net/16/6641/2016/](http://www.atmos-chem-phys.net/16/6641/2016/), doi:10.5194/acp-16-6641-2016.
5. Li, W., X. Qie, S. Fu, D. Su, Y. Shen (2016), Simulation of Quasi-Linear Mesoscale Convective Systems in Northern China: Lightning Activities and Storm Structure, *Adv. Atmos. Sci.*, 33, 85–100, doi: 10.1007/s00376-015-4170-3.
6. Li, Z., et al. (X. Xia), Aerosol and Monsoon Climate Interactions over Asia, *Rev. Geophys.*, 2016, doi:10.1002/2015RG000500.
7. Lu, G., H. Zhang, R. Jiang, Y. Fan, X. Qie, M. Liu, Z. Sun, Z. Wang, Y. Tian, and K. Liu (2016), Characterization of initial current pulses in negative rocket-triggered lightning with sensitive magnetic sensor, *Radio Science*, 50, doi:10.1002/2016RS005945.
8. Lu, G., S. A. Cummer, Y. Tian, H. Zhang, F. Lyu, T. Wang, J. Yang, and W. A. Lyons (2016), Sprite produced by consecutive impulse charge transfers in a negative stroke: observation and simulation, *J. Geophys. Res. Atmos.*, 121, doi:10.1002/2015JD024644.
9. Lyu, F., S. A. Cummer, G. Lu, and X. Zhou (2016), Imaging lightning intra-cloud initial stepped leaders by low-frequency interferometric lightning mapping array, *Geophys. Res. Lett.*, 43, doi:10.1002/2016GL069267.
10. Lyu, F., M. Briggs, M. Marisaldi, R. J. Blakeslee, E. Bruning, J. G. Wilson, W. Risson, P. Krehbiel, G. Lu, and S. A. Cummer (2016), Ground detection of terrestrial gamma-ray flashes from distant radio signals, *Geophys. Res. Lett.*, 43, 8728–8734, doi:10.1002/2016GL070154.
11. Ntwali, D., et al., 2016: Liquid and ice water content in clouds and their variability with temperature in Africa based on ERA-Interim, JRA-55, MERRA and ISCCP. *Meteorol Atmos Phys.*, DOI 10.1007/s00703-016-0447-z.
12. Qi B., D. Hu, H. Che, R. Du, Y. Wu, X. Xia, B. Zha, J. Liu, Y. Niu, H. Wang, X. Zhang, G. Shi, Seasonal variation of aerosol optical properties in an urban site of the Yangtze delta region of China, *AAQR*, 2016, 16, 2884–2896.

13. Qie, X., Y. Pu, R. Jiang, Z. Sun, M. Liu, H. Zhang, X. Li, G. Lu, Y. Tian. 2016. Bidirectional leader development in a pre-existing channel as observed in rocket-triggered lightning flashes, *J. Geophys. Res. Atmos.*, 121, doi:10.1002/2016JD025224
14. Ran, L., Z. Deng, P. Wang, and X. Xia, Black carbon and wavelength-dependent aerosol absorption in the North China Plain based on two-year aethalometer measurements, *Atmos. Environ.*, 142, 132–144, 2016.
15. Ran, L., Z. Deng, X. B. Xu, P. Yan, W. L. Lin, Y. Wang, P. Tian, P. Wang, W. Pan, and D. Lu, Vertical profiles of black carbon measured by a micro-aethalometer in summer in the North China Plain, *Atmos. Chem. Phys.*, 16, 10441–10454, 2016.
16. Randel, W., L. Pan, and J. Bian, 2016: Workshop on dynamics, transport and chemistry of the UTLS Asian Monsoon. *Adv. Atmos. Sci.*, 33(9), 1096–1098, doi: 10.1007/s00376-016-6169-9.
17. Reshma, N., Debashis N., Q. Li, W. Chen, and X. Cui, 2016: Impact of drought on agriculture in the Indo-Gangetic Plain, India. *Adv. Atmos. Sci.*, 10.1007/s00376-016-6102-2.
18. Song, Y., D. Lü, Q. Li, J. Bian, X. Wu, and D. Li, 2016: The impact of cut-off lows on ozone in the upper troposphere and lower stratosphere over Changchun from ozonde observations. *Adv. Atmos. Sci.*, 33(2), 135–150, doi: 10.1007/s00376-015-5054.
19. Sun, Y., Jiang, Q., Xu, Y., Ma, Y., Zhang, Y., Liu, X., Li, W., Wang, F., Li, J., Wang, P., Li, Z. (2016), Aerosol characterization over the North China Plain: Haze life cycle and biomass burning impacts in summer, *J. Geophys. Res. Atmos.*, 121, 2508 – 2521, doi:10.1002/2015JD024261.
20. Sun, Z., X. Qie, M. Liu, R. Jiang, Z. Wang, H. Zhang (2016), Characteristics of a negative lightning with multiple-ground terminations observed by a VHF lightning location system, *J. Geophys. Res. Atmos.*, 121, 413–426, doi:10.1002/2015JD023702.
21. Tang, G., J. Zhang, X. Zhu, T. Song, C. Münkel, B. Hu, K. Schäfer, Z. Liu, J. Zhang, L. Wang, J. Xin, P. Suppan, and Y. Wang, 2016: Mixing layer height and its implications for air pollution over Beijing, China. *Atmos. Chem. Phys.*, 16, 2459–2475, doi:10.5194/acp-16-2459-2016.
22. Tian, Y., X. Qie, G. Lu, R. Jiang, Z. Wang, H. Zhang, M. Liu, Z. Sun, G. Feng (2016), Characteristics of a bipolar cloud-to-ground lightning flash containing a positive stroke followed by three negative strokes, *Atmos. Res.*, 176–177, 222–230, doi:

/10.1016/j.atmosres.2016.02.023.

23. **Wang, F., X. Qie, D. Liu, H. Shi and A. Srivastav (2016), Lightning activity and its relationship with typhoon intensity and vertical wind shear for Super Typhoon Haiyan (1330). J. Meteor. Res., 30(1), 117–127, doi:10.1007/s13351-016-4228-x.**
24. **Wang, G., P. Yang, X. Zhou, 2016: Extracting the driving force from ozone data using slow feature analysis, Theoretical and Applied Climatology, 124(3), 985–989, 10.1007/s00704-015-1475-1.**
25. **Wang, Y., X. Qie, D. Wang, M. Liu, D. Su, Z. Wang, D. Liu, Z. Wu, Z. Sun, Y. Tian (2016), Beijing Lightning Network (BLNET) and the observation on preliminary breakdown processes, Atmos. Res., 171, 121–132, doi: org/10.1016/j.atmosres.2015.12.012.**
26. **Wang, Z., X. Qie\*, R. Jiang, C. Wang, G. Lu, Z. Sun, M. Liu, and Y. Pu (2016), High-speed video observation of stepwise propagation of a natural upward positive leader, J. Geophys. Res. Atmos., 121, doi:10.1002/2016JD025605**
27. 魏栋, 田文寿, 陈泽宇等. 青藏高原上空UTLS区域一次地形重力波过程中的物质上传. 地球物理学报, 2016, 59(3), 791–802. doi:10.6038/cjg20160303. Wei D, Tian W., Chen Z., et al. Upward transportation of airmass during a generation of orographic waves in the UTLS over the Tibetan Plateau. Chinese J. Geophys. (in Chinese), 2016, 791–802, doi: 10.6038/cjg20160303.
28. Wu X., X. Qie, T. Yuan, and J. Li, (2016), Meteorological regimes of the most intense convective systems along the southern Himalayan front. J. Climate. 29: 4383–4398. doi:10.1175/JCLI-D-14-00835.1
29. **Wu Y., R. Zhang, P. Tian, J. Tao, S. Hsu, P. Yan, Q. Wang, J. Cao, X. Zhang, X. Xia, Effect of ambient humidity on the light absorption amplification of black carbon in Beijing during January 2013, Atmos. Environ., 2016, 124, 217–223.**
30. **Xia, X., H. Che, J. Zhu, H. Chen, Z. Cong, X. Deng, X. Fan, Y. Fu, P. Goloub, H. Jiang, Q. Liu, B. Mai, P. Wang, Y. Wu, J. Zhang, R. Zhang, and X. Zhang, 2016: Ground-based remote sensing of aerosol climatology in China: Aerosol optical properties, direct radiative effect and its parameterization. Atmos. Environ., 124, 243–251.**
31. **Yang, P., G. Wang, F. Zhang and X. Zhou, 2016:Causality of global warming seen from observations: a scale analysis of driving force of the surface air temperature time series in the Northern Hemisphere, Climate Dynamics, 46(9), 3197–3204, DOI 10.1007/s00382-015-2761-4.**

32. Zhang, H., G. Lu, X. Qie, R. Jiang, Y. Fan, Y. Tian, Z. Sun, M. Liu, and G. Feng (2016), Locating narrow bipolar events with single-station measurement of low-frequence magnetic fields, *J. Atmos. Sol. Terr. Phys.*, 143–144, 88–101.
33. Zhang, J., J. Chen, X. Xia, H. Che, X. Fan, Y. Xie, Z. Han, H. Chen, D. Lu, 2016a: Heavy aerosol loading over the Bohai Bay as revealed by ground and satellite remote sensing. *Atmos. Environ.*, 124, 25 2-261.
34. Zhang, J., H. Chen, X. Xia, and W. Wang, 2016b: Dynamic and thermodynamic features of low and middle clouds derived from Atmospheric Radiation Measurement Program mobile facility radiosonde data at Shouxian, China, *Adv. Atmos. Sci.*, 33(1), 21-33.
35. Zhang, J., Li, J., Xia, X., Chen, H.,Ling, C., 2016c: Cloud properties under different synoptic circulations: Comparison of radiosonde and ground-based active remote sensing measurements. *Atmosphere*, 7, 154.
36. Zhang S., N. Ma, S. Kecorius, P. Wang, M. Hu, Z.B. Wang, J. Gr? ?, Z.J. Wu, A. Wiedensohler, Mixing state of atmospheric particles over the North China Plain, *Atmos. Environ.* 125, 2016, 152–164
37. Zhang Y., H. Chen, T. Zhao, X. Xia, et al., Aerosol optical properties over Beijing during the World Athletics Championships and Victory Day Military Parade in August and September 2015, *Atmos.*, 2 016, 47, doi:10.3390/atmos7030047.
38. Zhou, M., Dils, B., Wang, P., Detmers, R., Yoshida, Y., apos, Dell, C. W., Feist, D. G., Velazco, V. A., Schneider, M., and De Mazière, M.: Validation of TANSO-FTS/GOSAT XCO<sub>2</sub> and XCH<sub>4</sub> glint mode retrievals using TCCON data from near-ocean sites, *Atmos. Meas. Tech.*, 9, 1415-1430, 10.5194/amt-9- 1415-2016, 2016.
39. Zhou, M., Vigouroux, C., Langerock, B., Wang, P., Dutton, G., Hermans, C., Kumps, N., Metzger, J.-M., Toon, G., and De Mazière, M.: CFC-11, CFC-12 and HCFC-22 ground-based remote sensing FTIR measurements at Reunion Island and comparisons with MIPAS/ENVISAT data, *Atmos. Meas. Tech.*, doi:10.5194/amt-2016-235, 2016.
40. Zhu, J., X. Xia, H. Che, J. Wang, J. Zhang, and Y. Duan, 2016: Study of aerosol optical properties at Kunming in southwest China and long-range transport of biomass burning aerosols from North Burma. *Atmos. Res.*, 169, 237-247.
41. Zou L., A. Lin, L. Wang, X. Xia, W. Gong, H. Zhu, Z. Zhao, Long-term variations of estimated global solar radiation and the influencing factors in Hunan province, China during 1980-2013, *Meteo. Atmos. Phy.*, 2016, 128, 155-165.

(二) 2016年CSCD论文清单

42. 白建辉, DUHL Tiffany, 余树全, 王彬, 郝楠. 2015. 亚热带竹林挥发性有机物排放的模拟. 生态环境学报. 24(12), 1923–1937.
43. 樊艳峰, 陆高鹏, 张鸿波, 蒋如斌, 刘明远, 郄秀书 (2016), 人工触发闪电实验中初始电流脉冲辐射磁场的观测与模拟, 高电压技术, 42(2), doi:10.13336/j.1003-6520.hve.20160524001.
44. 费烨, 夏祥鳌. 1980—2009年中国大陆中东部气溶胶-云-辐射变化及其关系[J]. 气象与环境科学, 2016, 39(2):1-9.
45. 何文英, 凌超, 陈洪滨, 胡顺星. 2016, 合肥地区平流层气溶胶地基激光雷达与SAGE卫星探测比较. 遥感学报, 20(4):540–548
46. 何文英, 陈洪滨. 2016, 冰雹云降水过程中微波亮温的变化特征. 气象与环境科学, 39(1): 1-11
47. 黎勋, 郄秀书, 王宇, 王东方, 刘明远, 孙竹玲, 张鸿波, 刘昆 (2016), 基于高时间分辨率快电场变化资料的北京地区地闪回击统计特征, 气候与环境研究, doi: 10.3878/j.issn.1006-9585.2016.16007
48. 刘传熙, 刘毅, 王永, 2016: 基于探空资料北京地区大气臭氧的垂直分布特征分析, 气象与环境学报, 第32卷, 第1期, 46–52.
49. 龙菲, 何文英, 陈洪滨. 2016, 阿尔山地区积雪变化特征. 气象与环境科学, 39 (2): 82-89
50. 潘昕浓, 王革丽, 王鹏飞, 2016: 慢特征分析法在气象上的应用进展, 气象与环境科学, 3, 9(1) : 96 — 101.
51. 宋京京, 吴序鹏, 夏祥鳌. 华东农田秸秆燃烧对常州大气环境的影响[J]. 气象与环境科学, 2016, 39 (2) :18-25
52. 孙丽, 王普才, 张晋广, 等. 香河地区亚微米气溶胶粒子尺度谱分布特征[J]. 气象与环境科学, 2016, 39 (2) :26-32
53. 孙强, 范学花, 夏祥鳌. 华北地区气溶胶垂直分布特征的观测与分析[J]. 气象与环境科学, 2016, 39 (1) :26-33
54. 王飞, 刘毅, 蔡兆男, 刘传熙, 2016: 利用GOME-2卫星数据反演对流层臭氧, 遥感技术与应用, 第31卷, 第2期, 316–323
55. 武智君, 郄秀书, 王东方, 王宇 (2016), 北京地区负地闪回击转移的电荷量, 气候与环境研究, 21(3): 247–257, doi:10.3878/j.issn.1006-9585.2015.14282.
56. 武智君, 郄秀书, 王东方, (2016), 基于多站电场变化同步测量的负地闪回击中和电荷源特征, 高原气象, 2016(4): 1123-1134.

57. 杨东旭, 刘毅, 蔡兆男, 2016: 基于GOSAT反演的中国地区二氧化碳浓度时空分布研究, 大气科学, 第40卷, 第3期, 541-550.
58. 张金强, 2016: 地基探测与NCEP GFS模式预报云量在ARM SGP站点对比. 气象与环境科学, 39(1): 12-18.
59. 张银量, 宣越健, 张金强, 陈洪滨, 万晓佳, 2016: 东亚3个站点臭氧层顶和对流层顶关系研究, 成都信息工程大学学报, 31(1), 116-122.
60. Qiao S., W. Pan, D. Lu, Winter Mesospheric Thermal Structure over Tibetan Plateau, EPJ Web of Conferences, 119, 13010, 2016.
61. Wang Y., D. Lu, W. Pan, K. Yuan, A Case Study on Observed and Simulated CO<sub>2</sub> Concentration Profiles in Hefei based on Raman Lidar and GEOS-Chem Model, EPJ Web of Conferences, 119, 05019, 2016.
62. Yang J., 2016: Validation of Aerosol Profiles from SCIAMACHY Limb Scatter Measurements, Geoscience and Remote Sensing Symposium (IGARSS), 2016 IEEE International, DOI:10.1109/IGARSS.2016, 5720 - 5723.
63. 鱼艇, 潘蔚琳, 朱克云, 乔帅, 杨海龙, 夏季格尔木地区中间层大气温度探测初步分析, 红外与激光工程, 45, 10, 2016.

### (三) 2016年专利和著作权登记

1. 李兆明等, 协同自适应观测方法, 发明专利, 专利号: 201510041885.3, 2016年11月授权。
2. 刘明远, 郑秀书, 王志超, 蒋如斌, 孙竹玲, 雷电高速光度计, 发明专利, 专利号: ZL201410099449.8
3. 杨东旭, 碳卫星 (TanSat) 大气二氧化碳浓度业务化反演算法软件 [简称TanSORA]
  

  1. Bai, J., Guenther, A., Turnipseed, A., Duhl, T., Yu S., Wang B., 2016. Seasonal variations in whole-ecosystem BVOC emissions from a subtropical bamboo plantation in China. Atmos. Environ., 124, 12-21.
  2. Chen Z., J. Xu, X. Hu, H. Chen, W. Chen, K. Wei, J. Bian, W. Tian, S. Zhang, R. Rong, X. Du. Advances in the researches of the middle and upper atmosphere in China in 2014 ? 2016. Chin. J. Space Sci., 2016, 36(5): 738-752. DOI:10.11728/cjss2016.05.738
  3. Chen, Y., Y. F. Cheng, N. Ma, R. Wolke, S. Nordmann, S. Schuettauf, L. Ran, and et al., Sea salt emission, transport and influence on size-segregated nitrate simulation: a case study in northwestern Europe by WRF-Chem, Atmos. Chem. Phys., 16, 12081-12097, 2016.

4. Gu, Y., H. Liao, and J. Bian, 2016: Summertime nitrate aerosol in the upper troposphere and lower stratosphere over the Tibetan Plateau and the South Asian summer monsoon region. *Atmos. Chem. Phys.*, 16, 6641 – 6663, [www.atmos-chem-phys.net/16/6641/2016/](http://www.atmos-chem-phys.net/16/6641/2016/), doi:10.5194/acp-16-6641-2016.
5. Li, W., X. Qie, S. Fu, D. Su, Y. Shen (2016), Simulation of Quasi-Linear Mesoscale Convective Systems in Northern China: Lightning Activities and Storm Structure, *Adv. Atmos. Sci.*, 33, 85-100, doi: 10.1007/s00376-015-4170-3.
6. Li, Z., et al. (X. Xia), Aerosol and Monsoon Climate Interactions over Asia, *Rev. Geophys.*, 2016, doi:10.1002/2015RG000500.
7. Lu, G., H. Zhang, R. Jiang, Y. Fan, X. Qie, M. Liu, Z. Sun, Z. Wang, Y. Tian, and K. Liu (2016), Characterization of initial current pulses in negative rocket-triggered lightning with sensitive magnetic sensor, *Radio Science*, 50, doi:10.1002/2016RS005945.
8. Lu, G., S. A. Cummer, Y. Tian, H. Zhang, F. Lyu, T. Wang, J. Yang, and W. A. Lyons (2016), Sprite produced by consecutive impulse charge transfers in a negative stroke: observation and simulation, *J. Geophys. Res. Atmos.*, 121, doi:10.1002/2015JD024644.
9. Lyu, F., S. A. Cummer, G. Lu, and X. Zhou (2016), Imaging lightning intra-cloud initial stepped leaders by low-frequency interferometric lightning mapping array, *Geophys. Res. Lett.*, 43, doi:10.1002/2016GL069267.
10. Lyu, F., M. Briggs, M. Marisaldi, R. J. Blakeslee, E. Bruning, J. G. Wilson, W. Rison, P. Krehbiel, G. Lu, and S. A. Cummer (2016), Ground detection of terrestrial gamma-ray flashes from distant radio signals, *Geophys. Res. Lett.*, 43, 8728-8734, doi:10.1002/2016GL070154.
11. Ntwali, D., et al., 2016: Liquid and ice water content in clouds and their variability with temperature in Africa based on ERA-Interim, JRA-55, MERRA and ISCCP. *Meteorol Atmos Phys.*, DOI 10.1007/s00703-016-0447-z.
12. Qi B., D. Hu, H. Che, R. Du, Y. Wu, X. Xia, B. Zha, J. Liu, Y. Niu, H. Wang, X. Zhang, G. Shi, Seasonal variation of aerosol optical properties in an urban siteof the Yangtze delta region of China, *AAQR*, 2016, 16, 2884-2896.
13. Qie, X., Y. Pu, R. Jiang, Z. Sun, M. Liu, H. Zhang, X. Li, G. Lu, Y. Tian. 2016. Bidirectional leader development in a pre - existing channel as observed in rocket - triggered lightning flashes, *J. Geophys. Res. Atmos.*, 121, doi:10.1002/2016JD025224

14. Ran, L., Z. Deng, P. Wang, and X. Xia, Black carbon and wavelength-dependent aerosol absorption in the North China Plain based on two-year aethalometer measurements, *Atmos. Environ.*, 142, 132-144, 2016.
15. Ran, L., Z. Deng, X. B. Xu, P. Yan, W. L. Lin, Y. Wang, P. Tian, P. Wang, W. Pan, and D. Lu, Vertical profiles of black carbon measured by a micro-aethalometer in summer in the North China Plain, *Atmos. Chem. Phys.*, 16, 10441-10454, 2016.
16. Randel, W., L. Pan, and J. Bian, 2016: Workshop on dynamics, transport and chemistry of the UTLS Asian Monsoon. *Adv. Atmos. Sci.*, 33(9), 1096-1098, doi: 10.1007/s00376-016-6169-9.
17. Reshma, N., Debashis N., Q. Li, W. Chen, and X. Cui, 2016: Impact of drought on agriculture in the Indo-Gangetic Plain, India. *Adv. Atmos. Sci.*, 10.1007/s00376-016-6102-2.
18. Song, Y., D. Lü, Q. Li, J. Bian, X. Wu, and D. Li, 2016: The impact of cut-off lows on ozone in the upper troposphere and lower stratosphere over Changchun from ozonesonde observations. *Adv. Atmos. Sci.*, 33(2), 135-150, doi: 10.1007/s00376-015-5054.
19. Sun, Y., Jiang, Q., Xu, Y., Ma, Y., Zhang, Y., Liu, X., Li, W., Wang, F., Li, J., Wang, P., Li, Z. (2016), Aerosol characterization over the North China Plain: Haze life cycle and biomass burning impacts in summer, *J. Geophys. Res. Atmos.*, 121, 2508–2521, doi:10.1002/2015JD024261.
20. Sun, Z., X. Qie, M. Liu, R. Jiang, Z. Wang, H. Zhang (2016), Characteristics of a negative lightning with multiple-ground terminations observed by a VHF lightning location system, *J. Geophys. Res. Atmos.*, 121, 413-426, doi:10.1002/2015JD023702.
21. Tang, G., J. Zhang, X. Zhu, T. Song, C. Münkel, B. Hu, K. Schäfer, Z. Liu, J. Zhang, L. Wang, J. Xin, P. Suppan, and Y. Wang, 2016: Mixing layer height and its implications for air pollution over Beijing, China. *Atmos. Chem. Phys.*, 16, 2459-2475, doi:10.5194/acp-16-2459-2016.
22. Tian, Y., X. Qie, G. Lu, R. Jiang, Z. Wang, H. Zhang, M. Liu, Z. Sun, G. Feng (2016), Characteristics of a bipolar cloud-to-ground lightning flash containing a positive stroke followed by three negative strokes, *Atmos. Res.*, 176-177, 222-230, doi: /10.1016/j.atmosres.2016.02.023.
23. Wang, F., X. Qie, D. Liu, H. Shi and A. Srivastav (2016), Lightning activity and its relationship with typhoon intensity and vertical wind shear for Super Typhoon Haiyan (1330). *J. Meteor. Res.*, 30(1), 117–127, doi:10.1007/s13351-016-4228-x.