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School of Atmospheric Sciences, Nanjing University

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庄炳亮（副教授）

Bingliang Zhuang (Associate Professor)

办公室：大气科学学院院楼A204

电话：025-89681156/13913993513

Email: blzhuang@nju.edu.cn

地址：南京市栖霞区仙林大道163号

邮编：210023

个人简介：庄炳亮，男，福建三明人，中国共产党党员，毕业于南京大学大气科学学院，现任南京大学大气科学学院副教授。长期从事东亚地区人为气溶胶的气候效应及与东亚季风相互作用的模拟研究，长三角地区城市大气成分、气溶胶光学特性和辐射强迫的观测研究。发表空气污染与气候变化方面的学术论文60余篇，其中SCI论文50篇，引用600余次，研究成果被IPCC第五次评估报告引用。参与编写教材2部，出版专著2部，荣获奖励4项。主持包括国家重大研发计划课题、国家自然科学基金面上在内的国家、部级科研项目4项，主持校级国际合作项目1项。以课题骨干身份参加国家973课题2项，国家自然科学基金项目2项，公益性（气象）行业专项2项，欧盟国际合作项目1项。

研究方向

空气污染与气候变化相互作用研究

长江三角洲（长三角）地区城市大气环境的观测研究

受教育经历

2006.9-2011.6 南京大学大气科学学院大气物理学与大气环境专业，理学博士学位

2002.9-2006.6 南京大学大气科学系大气科学专业，理学学士学位

工作经历

2014.6- 南京大学大气科学学院副教授

2011.7-2014.6 南京大学大气科学学院助理研究员

主持课题

- 1、国家重点研发计划课题：多源资料同化及源解析数值方法，2017YFC0209803，2017.07~2020.06
- 2、国家自然科学基金面上项目：混合状态在气溶胶影响东亚季风中的不确定性研究，41675143，2017.01~2020.12
- 3、国家自然科学基金青年项目：东亚地区黑碳气溶胶与夏季风环流和降水的相互影响研究，41205111，2013.01~2015.12
- 4、教育部博士点（新教师类）基金：长三角地区典型气溶胶及其辐射特性研究，20120091120031，2013.01~2015.12

参与（部分）课题

- 1、国家重点基础研究发展项目（973）课题，我国黑碳气溶胶辐射强迫、增温幅度及减排策略研究，2014CB441203，2014.01~2018.08
- 2、国家重点基础研究发展项目（973）课题：气溶胶-云-辐射反馈过程及其与亚洲季风相互作用的研究，2011CB403406，2011.01~2015.08
- 3、国家自然科学基金重点项目：长三角城市细颗粒物和臭氧的垂直分布、理化耦合及其天气效应，91544230,2016.01~2019.12
- 4、国家自然科学基金面上项目：区域气候-化学-生态耦合模式的发展及其在短寿命大气污染物气候效应研究中的应用，41575145，2016.01~2019.12

授课

《大气科学概论》（大气化学、云微物理、边界层）

《地球大气综合探测》（地面要素、大气化学）

发表第一 / 通讯作者论文（按年份）：

Zhuang, B. L.*, H. M. Chen, S. Li, T. J. Wang, J. Liu, L. J. Zhang, H. N. Liu, M. Xie, P. L. Chen, M. M. Li, M. Zhao (2019), The direct effects of black carbon aerosols from different source sectors in East Asia in summer, *Climate Dynamics*, 53(9), 5293-5310.

Chen, H. M., **B. L. Zhuang***, J. Liu, T. J. Wang, S. Li, M. Xie, M. M. Li, P. L. Chen, M. Zhao (2019), Characteristics of ozone and particles in the near-surface atmosphere in urban area of the Yangtze River Delta, China, *Atmos. Chem. Phy.*, 19, 4153-4175.

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Wang, T. J., **B. L. Zhuang***, S. Li, J. Liu, M. Xie, C. Q. Yin, Y. Zhang, C. Yuan, J. L. Zhu, Y. Han (2015), The interactions between anthropogenic aerosols and the East Asian summer monsoon using RegCCMS, *J. Geophys. Res. Atmos.*, 120, doi:10.1002/2014JD022877.

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Zhuang, B. L., T. J. Wang*, S. Li, J. Liu, R. Talbot, H. T. Mao, X. Q. Yang, C. B. Fu, C. Q. Yin, J. L. Zhu, H. Z. Che, X. Y. Zhang (2014), Optical properties and radiative forcing of urban aerosols in Nanjing, China, *Atmos. Environ.*, 83, 43-52.

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庄炳亮, 王体健*, 李树 (2009), 中国地区黑碳气溶胶的间接辐射强迫与气候效应, *高原气象*, 28 (5), 1095-1104.

编写专著:

- 1、王体健, 李树, **庄炳亮**, 谢旻, 李蒙蒙, 《区域大气环境-化学-气候模拟》, **气象出版社**, 2017年6月
- 2、王文兴, 柴发合, 王人洁, 王体健, 王韬, 叶兴南, 朱利中, 朱彤, **庄炳亮**, 刘越, 吴忠标, 张庆竹, 张远航, 陈义珍, 陈建民, 陈雄波, 范绍佳, 赵妤希, 郝吉明, 钟流举, 《十一五中国环境学科发展报告》, **中国科学技术出版社**, 2012年4月

编写教材:

- 1、王体健, 谢旻, 韩永, **庄炳亮**, 李树, 陈璞珑, 李蒙蒙, 袁成, 《大气化学试验教程》, **南京大学出版社**, 2017年8月
- 2、韩永, 王体健, 谢旻, **庄炳亮**, 《大气科学中的探测原理与方法》, **南京大学出版社**, 2015年12月

荣获奖励:

- 1、江苏大气科学基础研究成果奖一等奖, 江苏省气象学会, 5/7, 2018
- 2、江苏省环境保护科学技术奖二等奖, 江苏省环境科学学会, 5/7, 2018
- 3、高等学校科学研究优秀成果奖(科学技术)自然科学奖二等奖, 教育部, 7/7, 2016

合作发表论文（按年份）

【2018年，8篇】

57、 Gao, M., Z. Han, Z. Liu, M. Li, J. Xin, Z. Tao, J. Li, J.-E. Kang, K. Huang, X. Dong, **B. Zhuang**, S. Li, B. Ge, Q. Wu, Y. Cheng, Y. Wang, H.-J. Lee, C.-H. Kim, J. S. Fu, T. Wang, M. Chin, J.-H. Woo, Q. Zhang, Z. Wang, and G. R. Carmichael (2018), Air quality and climate change, Topic 3 of the Model Inter-Comparison Study for Asia Phase III (MICS-Asia III) –Part 1: Overview and model evaluation, *Atmos. Chem. Phys.*, 18, 4859–4884.

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49、 Zhu, J., J. E. Pennera, G. Lin, C. Zhou, L. Xu, and **B. Zhuang** (2017), Mechanism of SOA formation determines magnitude of radiative effects, *Proceedings of the National Academy of Sciences of the United States of America*, doi/10.1073/pnas.1712273114.

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45、 Li, M., T. Wang, M. Xie, **B. Zhuang**, S. Li, Y. Han, and N. Cheng (2017), Modeling of urban heat island and its impacts on thermal circulations in the Beijing–Tianjin–Hebei region, China, *Theor. Appl. Climatol.*, 128, 999–1013.

44、 Li, M., T. Wang, Y. Han, M. Xie, S. Li, **B. Zhuang**, and P. Chen (2017), Modeling of a severe dust event and its impacts on ozone photochemistry over the downstream Nanjing megacity of eastern China, *Atmos. Environ.*, 160, 107-123.

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- 39、 Wu, Y., Y. Han, A. Voulgarakis, T. Wang, M. Li, Y. Wang, M. Xie, **B. Zhuang**, and S. Li (2017), An agricultural biomass burning episode in eastern China: Transport, optical properties, and impacts on regional air quality, *J. Geophys. Res. Atmos.*, 122, 2304–2324, doi:10.1002/2016JD025319.
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【2016年, 5篇】

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【2015年, 11篇】

- 32、 Huang, X. X., T. J. Wang, R. Talbot, M. Xie, H. T. Mao, S. Li, **B. L. Zhuang**, X. Q. Yang, C. B. Fu, J. L. Zhu, X. Huang, R. Y. Xu (2015), Temporal characteristics of atmospheric CO₂ in urban Nanjing, China, *Atmospheric Research*, 153, 437-450, doi:10.1016/j.atmosres.2014.09.007.
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- 28、Han, Y., Y. H. Wu, T. J. Wang, C. B. Xie, K. Zhao, **B. L. Zhuang**, S. Li (2015), Characterizing a persistent Asian dust transport event: Optical properties and impact on air quality through the ground-based and satellite measurements over Nanjing, China, *Atmospheric Environment*, 115, 304-316, doi: 10.1016/j.atmosenv.2015.05.048.
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- 26、王体健, **庄炳亮** (2015), “长三角地区城市空气污染及环境气候效应”专栏前言, **南京大学学报 (自然科学)**, 51 (3), 459-462.
- 25、石睿, 王体健, 李树, **庄炳亮**, 蒋自强, 廖镜彪, 殷长秦 (2015), 东亚夏季气溶胶一云一降水分布特征及其相互影响的资料分析, **大气科学**, 39(1), 12—22.
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- 23、刘芷君, 王体健, 谢旻, 李树, **庄炳亮**, 韩永 (2015), 东亚地区冬季风对气溶胶传输和分布的影响研究, **南京大学学报 (自然科学)**, 51 (3), 575-586.
- 22、陈璞珑, 王体健, 胡忻, 谢旻, **庄炳亮**, 李树 (2015), 南京市细颗粒物来源解析研究, **南京大学学报 (自然科学)**, 51 (3), 524-534.

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【2013年, 3篇】

- 17、Liu, Q., K. S. Lam, F. Jiang, T. J. Wang, M. Xie, **B. L. Zhuang**, X. Y. Jiang (2013), A numerical study of the impact of climate and emission changes on surface ozone over South China in autumn time in 2000-2050, *Atmos. Environ.*, 76, 227-237.
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【2012年, 6篇】

- 14、Zhu, J., T. Wang, R. Talbot, H. Mao, C. Hall, X. Yang, C. Fu, B. L. Zhuang, S. Li, Y. Han, X. Huang (2012), Characteristics of atmospheric Total Gaseous Mercury (TGM) observed in urban Nanjing, China, *Atmos. Chem. Phys.*, 12, 12103-12118.

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12、Jiang, F, Q. Liu, X. X. Huang, T. J. Wang, **B. L. Zhuang**, M. Xie (2012), Regional modeling of secondary organic aerosol over China using WRF/Chem, *J. Aero. Sci.*, 43 (1), 57-73.

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- 南京大学仙林校区大气科学楼
江苏省南京市栖霞区仙林大道163号
210023