

Publication list

Peer Reviewed

1. Nicoll, K.A., R.G. Harrison, Observed variability in charging of stratiform cloud edges, submitted to Q.J.R. Met. S., 2016.
2. Harrison R.G. , E. Barth , F. Esposito , J. Merrison , F. Montmessin, K.L. Aplin , C. Borlina, J.J. Berthelier, G. Déprez, W.M. Farrell , I.M.P. Houghton, N.O. Renno , K.A. Nicoll, S.N. Tripathi, M. Zimmerman , Applications of electrified dust and dust devil electrostatics to Martian atmospheric electricity, in press at Space Science Review. 2016.
3. Harrison, R.G., K.A. Nicoll, Y. Takahashi, Y. Yair, High energy particles and atmospheric processes, submitted to Environ. Phys. Lett.
4. Petäjä, T., E.J. O'Connor, D. Moisseev, K.A. Nicoll et. al., BAEC: A field campaign to elucidate the impact of Biogenic Aerosols on Clouds and Climate, in press at Bull. Am. Met. Soc.
5. Harrison R.G., G.J. Marlton, S. von Löwis, P.D. Williams, K.A. Nicoll, coordinated weather balloon solar radiation measurements during a solar eclipse, in press at *Phil. Trans. A*, 2015.
6. Marlton, G.J., P.D. Williams, K.A. Nicoll, On the detection of gravity waves generated by the 20 March 2015 solar eclipse, in press at *Phil. Trans. A*, 2015.
7. Lopes, F., H.G. Silva, M. Potes, K. Nicoll, Negative space charge density over Alqueva reservoir retrieved from atmospheric electric field measurements, under review at J. Geophys. Res.
8. Mironova, I.M, K.L. Aplin, F. Arnold, K.A. Nicoll et al., Energetic particle influences on atmospheric processes, Space Science Reviews, DOI 10.1007/s11214-015-0185-4, 2015.
9. Harrison, R.G., K.A. Nicoll, M.H.P. Ambaum, Droplet electrification at layer cloud edges, Q.J.R.M.S., DOI:10.1002/qj.2554, 2015.
10. Silva, H., R., Conceição, M. Melgão, K. Nicoll, P. Mendes, T. Mouhaydine, A. Reis, , R.G. Harrison, Atmospheric electric field measurements in urban environment and the pollutant aerosol weekly dependence, Environ. Res. Lett., **9**, 114025, 2014.
11. Conceição,R., M. Melgão, H.G. Silva, M. Tlemçani, A. H. Reis, K.A. Nicoll, R.G. Harrison, Impact of the historical Chiado's fire on the atmospheric electric field in Lisbon, Air Quality, atmosphere and health, DOI: 10.1007/s11869-015-0337-4, 2015.
12. Owens, M., C. Scott, M. Lockwood, R.G. Harrison, L. Barnard, K.A. Nicoll, C.Watt, A. Bennett, Modulation of UK lightning by heliospheric magnetic field polarity, Environ. Res. Lett, **9** 115009, 2014.
13. Marlton, G.J., R.G Harrison, K. A. Nicoll, P.D. Williams, A balloon-borne accelerometer technique for measuring atmospheric turbulence, *Rev. Sci. Instrum.*, **86**, 016109, 2015.
14. Harrison, R.G., K.A. Nicoll, K.L Aplin, Vertical profile measurements of lower troposphere ionisation, J. Atmos. Sol.-Terr. Phys., **119**, 203, 2014.
15. Nicoll, K.A., Space weather effects on atmospheric electricity, *Weather*, **69** (9), 238-241, 2014. DOI: 10.1002/wea.2323.
16. Elhalel G., Y. Yair, K. Nicoll, C.Price, Y. Reuveni, G. Harrison Influence of short term solar disturbances on the fair weather conduction current, J. Space Weather Space Clim. **4** A26, 2014.
17. Harrison, R.G., Nicoll, K.A., Aplin, K.L., Vertical profile measurements of lower troposphere ionisation, J. Atmos. Sol.-Terr. Phys., **119**, 203-210, 2014
18. Nicoll, K.A. and R.G. Harrison, Detection of lower tropospheric responses to solar energetic particles at mid-latitudes, *Physical Review Letters*, **112**, 225001, 2014.
19. Harrison, R.G. and K.A. Nicoll, Active optical detection of cloud from a balloon platform, *Rev. Sci. Instrum.*, **85**, 066104, 2014.

20. Nicoll, K.A., A self-calibrating electrometer for atmospheric charge measurements from a balloon platform, **84**, 096107, *Rev. Sci. Instrum.*, 2013.
21. Houghton, I.M.P., K.L. Aplin, K. A. Nicoll, Triboelectric charging of volcanic ash from the 2011 Grímsvötn eruption, *Phys. Rev. Lett.*, **111**, 118501, 2013.
22. Harrison, R.G., K.A. Nicoll and A.G. Lomas, Geiger tube coincidence counter for lower atmosphere radiosonde measurements, *Rev. Sci. Instrum.*, **84**, 076103, 2013.
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24. Harrison, R.G., K.A. Nicoll and K. McWilliams, Space weather driven changes in lower troposphere phenomena, *Journal of Atmospheric and Solar Terrestrial Physics*, **98**, 22-30, 2013.
25. Rycroft, M.J., K.A. Nicoll, K.L. Aplin, R.G. Harrison, Global electric circuit coupling between the space environment and the troposphere, *J. Atmos. Sol. Terr. Phys.*, **90-91**, 198-211. <http://dx.doi.org/10.1016/j.jastp.2012.03.015>, 2012.
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29. Nicoll, K.A., R.G. Harrison and Z. Ulanowski, Observations of Saharan dust electrification, *Environ. Res. Lett.*, **6**, 014501-4, 2011.
30. Nicoll, K.A., R.G. Harrison, Experimental determination of layer cloud edge charging from cosmic ray ionisation, *Geophys. Res. Lett.*, **37**, L13802, doi:10.1029/2010GL043605, 2010.
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32. Nicoll K.A. and R.G. Harrison, Vertical current flow through extensive layer clouds, *J. Atmos. Sol. Terr. Phys.*, **71**, 2040-2046, 2009.
33. Nicoll K.A and R.G. Harrison, A lightweight balloon-carried charge sensor, *Rev. Sci. Instrum.*, **80**, 014501-4, 2009.
34. Nicoll K. A. and R. G. Harrison, A double-Gerdien instrument for simultaneous bipolar air conductivity measurements on balloon platforms, *Rev. Sci. Instrum.*, **79**, 084502-8, 2008.
35. Rycroft M. J., R. G. Harrison, K. A. Nicoll and E. A. Mareev, An overview of the Earth's global electric circuit and atmospheric conductivity, *Space. Sci. Revs.*, **137**, 1-4, 83-105, 2008.
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Non-peer reviewed

1. K.A. Nicoll and R.G. Harrison, Cloud sensors for radiosonde use, *Proceedings of the Annual Aerosol Society Conference*, Bristol, 2012.
2. K.A. Nicoll and R.G. Harrison, Meteorological sensors for small airborne platforms, *EMS conference*, Berlin, 2011.
3. K.A. Nicoll, R.G. Harrison and J. Ulanowski, Balloon measurements of electrification in the Eyjafjallajökull volcanic ash plume, *EMS conference*, Berlin, 2011.

4. K.A. Nicoll and R.G. Harrison, Stratiform cloud edge charging from cosmic ray ionisation, *Auger cosmic ray conference*, Cambridge, 2011.
5. Charge measurements in fair weather stratiform cloud, *IOP Electrostatics conference*, Bangor, Wales, 2011.
6. K.A. Nicoll and R.G. Harrison, Research Radiosondes, *Met. Tech. Int.* Nov 2010, 140 , 2010.
7. Nicoll, K.A., Z. Ulanowski, R.G. Harrison, Charge measurements within a Saharan dust layer using balloon-carried sensors, *EGU*, Vienna, 2010.
8. Nicoll, K.A., R.G. Harrison, The air-Earth conduction current and stratiform cloud edge charging, *EGU*, Vienna, 2010.
9. Nicoll, K.A., R.G. Harrison, Experimental confirmation of layer cloud edge charging from cosmogenic ions, *IAS-ISF conference on Solar, Cosmic Rays and Climate Connections*, Jerusalem, Israel, 2010.
10. Nicoll, K.A., Z. Ulanowski, R.G. Harrison, P.H. Kaye, Balloon-borne charge measurements within a Saharan dust layer, *Proceedings of the Annual Aerosol Society Conference*, Southampton, 2010.
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12. Nicoll K. A. and R. G. Harrison , Charge measurements on non-thunderstorm cloud edges, *EGU*, Vienna, 2009.
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14. Nicoll K. A. and R. G. Harrison, Instrumentation for cloud charge measurements using aerial platforms, *ARM AVP workshop on aircraft instrumentation*, Illinois, 2008.
15. Nicoll K. A. and R. G. Harrison, Measurement of charged layers in the atmosphere from a balloon-carried sensor, *Proceedings of the Annual Aerosol Society Conference*, Leeds, 2008.
16. Nicoll K.A. and R.G. Harrison, An inexpensive instrument to measure the vertical profile of atmospheric air's electrical conductivity, *Proceedings of the Annual Aerosol Society Conference*, London, 2007.