

## **Chilbolton Facility for Atmospheric and Radio Research (CFARR) Publications list (2002-2007)**

### **Publications - 2002**

#### **Refereed Papers**

Browning, K. A., P. Panagi, and E. M. Dicks, Multi-sensor synthesis of the mesoscale structure of a cold-air comma cloud system, *Meteorol. Appl.* 9, 155-175, 2002.

Browning, K. A. and C.-G. Wang, Cloud-top striations above ana-cold frontal circulations, *Q. J. R. Meteorol. Soc.*, 128, 477-499, 2002.

Collier, C.G., A. J. Illingworth and B. W. Golding, Quantitative precipitation forecasts, *Weather*, 57(2), 59, 2002.

Hogan, R. J., P. R. Field, A. J. Illingworth, R. J. Cotton and T. W. Choullarton, Properties of embedded convection in warm-frontal mixed-phase cloud from aircraft and polarimetric radar, *Quart. J. Roy. Meteorol. Soc.*, 128, 451-476, 2002.

Illingworth, A. J., and T. M. Blackman, The need to represent raindrop size spectra as normalized gamma distributions for the interpretation of polarization radar observations, *J. Appl. Meteorol.*, 41, 287-297, 2002.

McMillan, A.C., G.D. Quartly, M.A. Srokosz and J. Tournadre, Validation of the TOPEX rain algorithm: Comparison with ground-based radar, *J. Geophys. Res.* 107, D4, ACL 3-1 – ACL 3-10, 2002.

Stephens, G. L., D. G. Vane, R. Boain, G. G. Mace, K. Sassen, Z. Wang, A. J. Illingworth, E. J. O'Connor, W. Rossow, S. L. Durden, S. D. Miller, R. T. Austin, A. Benedetti, C. Mitrescu and the CloudSat science team, The CloudSat mission and the A-train: A new dimension of space-based observations of clouds and precipitation, *Bull. Amer. Meteorol. Soc.*, 83, 1771-1790, 2002.

#### **Non-refereed Papers and Conference Proceedings**

Agnew, J. L., and K. J. Twort, A Raman backscattering lidar system for tropospheric radio refractivity determination, *Proc. 21st ILRC conference*, Defence R&D Canada, pp. 713-716, 2002.

Goddard, J. W. F., J. D. Eastment, W. J. Bradford and K. Woodbridge. Ground-based aviation weather radar research at the Rutherford Appleton Laboratory and University College London, *IEE colloquium on 'Aviation Surveillance Systems'*, London, UK, 23 January 2002, Colloquium Digest No. 02/054, pp 6/1 - 6/9.

Illingworth, A. J., R. J. Hogan, M. E. Brooks and E. J. O'Connor, Use of cloud radar and lidar data for validating clouds in operational forecasting models, *Proceedings EarthCARE Workshop*, Communication Research Laboratory, Tokyo, Japan, 17-18 July 2002.

Krasnov, O. A., and H. W. J. Russchenberg, An enhanced algorithm for the retrieval of liquid water cloud properties from simultaneous radar and lidar measurements. Part 1: the basic analysis of in situ measured drop size spectra, *Proceedings of the 2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 1-6, 2002.

Maitra, A. and J. W. F. Goddard, Retrieval of water cloud parameter with ground based radar and lidar observations, *Proceedings of the National Symposium on Antennas and Propagation*, Kochi, India, 9-11 December 2002.

### **Conference Presentations / Posters**

Bouniol, D., and A. J. Illingworth, Estimating vertical air velocity in rain using a 94GHz radar, *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Bouniol, D., Illingworth, A., and Hogan, R., Diagnostic of vertical motions within rain using 94 GHz, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

Brooks, M., R. Hogan, and A. J. Illingworth, An evaluation of the representation of clouds in the Met Office mesoscale unified model, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

Brooks, M., R. Hogan, and A. J. Illingworth, An evaluation of the representation of clouds in the Met Office unified model, *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Forbes, R., Validating a NWP model microphysics parametrization in the evaporation zone beneath frontal cloud, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

Forbes, R., Using radar data to validate a mesoscale model in the evaporation zone beneath frontal cloud, *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Gaussiat, N., H. Sauvageot and A Illingworth, Ice and liquid water content of clouds inferred from multiple wavelength radar observations, *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Hogan, R., A. J. Illingworth, and P. E. Krider, Polarimetric radar observations of storm electrification and lightning, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

Hogan, R. J., A. J. Illingworth, and E. P. Kreider, Polarimetric radar observations of storm electrification and lightning, *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Illingworth, A. J., The role of cloud radar and lidar in probing boundary layer clouds, invited lecture, *Workshop on Aerosol-cloud-radiation Interaction in Boundary Layer Clouds*, Toulouse 22-28 June 2002.

Illingworth, A. J., Prospects for improved rainrates using operational polarisation radar, *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Illingworth, A. J., Prospects for improved rainfall estimates using polarisation radar techniques, *International Conference on Quantitative Precipitation Forecasting*, 2 – 6 September, Reading UK, 2002.

Kilburn, C. A. D., The Chilbolton Meteorological Radar Facility, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

Mittermaier, M. P., Using mesoscale model output to improve radar rainfall estimates, *International Conference on Quantitative Precipitation Forecasting*, 2 – 6 September, Reading UK, 2002.

Mittermaier, M. P., and A. J. Illingworth, The use of mesoscale model output within a VPR correction scheme, *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Mittermaier, M., and A. J. Illingworth, Investigating the use of mesoscale model values of ice water content to improve radar rainfall estimates at the ground, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

Morcrette, C., and K. A. Browning, Categorising slantwise convection, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

O'Connor, E., Characterising drizzle in stratocumulus, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

O'Connor, E. J., R. J. Hogan and A. J. Illingworth, Characterising drizzle in stratocumulus, , *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Pavelin, E., A. Illingworth, J. Eastment, O. Davies, and J. Bradford, The new UFAM facilities at Chilbolton: A 1-GHz clear air radar and a 35-GHz cloud radar, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

Tian, W., Parker, D. J. and Kilburn, C. A. D., Numerical simulation of atmospheric cellular convection over mesoscale topography, *UWERN 2002 conference*, Colchester, Essex, 9-11 September 2002.

Tian, W., Parker, D. J. and Kilburn, C. A. D., Multi-sensor observations of boundary layer convective circulations and comparisons to numerical simulations, *2<sup>nd</sup> European Conference on Radar Meteorology*, 18-22 November, Delft, Netherlands, 2002.

Tian, W., Parker, D. J. and Kilburn, C. A. D., Observations and modelling of convective rolls over low hills, *European Geophysical Society XXVII General Assembly*, Nice, 21-26 April 2002.

### **PhD Theses**

Forbes, R. M., Numerical model parameterization of ice microphysics and the impact of evaporative cooling on frontal dynamics, Department of Meteorology, University of Reading, August 2002.

Tian W, Modelling of orographic convection, Institute for Atmospheric Science, University of Leeds, submitted October 2002.

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### **Publications - 2003**

#### **Refereed Papers**

Gaussiat, N., H. Sauvageot and A. J. Illingworth, Cloud liquid water and ice content retrieval by multi-wavelength radar, *J. Atmos. Oceanic Technol.*, 20(9), 1264-1275, 2003.

Hogan, R. J., D. Bouniol, D. N. Ladd, E. J. O'Connor and A. J. Illingworth, Absolute calibration of 94/95-GHz radars using rain, *J. Atmos. Oceanic Technol.*, 20(4), 572-580, 2003.

Hogan, R. J., and A. J. Illingworth, Parameterizing ice cloud inhomogeneity and the overlap of inhomogeneities using cloud radar data, *J. Atmos. Sci.*, 60(5), 756-767, 2003.

Hogan, R. J., P. N. Francis, H. Flentje, A. J. Illingworth, M. Quante and J. Pelon, Characteristics of mixed-phase clouds: Part I: Lidar, radar and aircraft observations from CLARE'98, *Quart. J. Roy. Meteorol. Soc.*, 129, 2089-2116, 2003.

Hogan, R. J., A. J. Illingworth, J. P. V. Poiars Baptista and E. J. O'Connor, Characteristics of mixed-phase clouds: Part II: A climatology from ground-based lidar, *Quart. J. Roy. Meteorol. Soc.*, 129, 2117-2134, 2003.

Mittermaier, M. P., and A. J. Illingworth, Comparison of model-derived and radar-observed freezing level heights: Implications for vertical reflectivity profile correction schemes, *Quart. J. Roy. Meteorol. Soc.*, 129, 83-96, 2003.

Phillips, V. T. J., T. W. Choullarton, A. J. Illingworth, R. J. Hogan and P. R. Field, Simulations of the glaciation of a frontal mixed-phase cloud with the Explicit Microphysics Model, *Quart. J. Roy. Meteorol. Soc.*, 129, 1351-1371, 2003.

Tian W., Parker D. J., and Kilburn C. A. D., Observations and numerical simulation of atmospheric cellular convection over mesoscale topography, *Mon. Weather Review*: Vol. 131, No. 1, pp. 222-235, 2003.

## **Books**

Illingworth, A. J., Improved Precipitation rates and data quality by using polarimetric measurements, in *Advanced Applications of Weather Radar*, Springer, 2003.

Strangeways, I, *Measuring the Natural Environment*, 2<sup>nd</sup> Edition, ISBN: 0521529522, 544 pages, Cambridge University Press. October 2003.

## **Non-refereed Papers and Conference Proceedings**

Agnew J., Lidar and radar tropospheric profiling at Chilbolton Observatory, Proc. 6th ISTP Conference, pp. 151-153, Institute for Tropospheric Research, Leipzig, Germany, 2003.

Bouniol, D., A. J. Illingworth and R. J. Hogan, Deriving turbulent kinetic energy dissipation rate within clouds using ground based 94 GHz radar, *Proc. 31st Int. Conf. on Radar Meteorology*, Seattle, AMS, 2003.

Gaussiat, N., and A. J. Illingworth, Investigating the density of ice particles using dual-wavelength Doppler radar, *Proc. 31st Int. Conf. on Radar Meteorology*, Seattle, AMS, 2003.

Illingworth, A. J., and D. H. Bouniol, Improved radar rainfall estimates: What index to use in the gamma function for the drop spectrum, *Proc. 31st Int. Conf. on Radar Meteorology*, Seattle, AMS, 2003.

Li, Z., J.P. Muller, P.A. Cross, P. Albert, H. T., R. Watson, J. Fischer, and R. Bennartz, Validation of MERIS Near IR water vapour retrievals using MWR and GPS measurements, *Proceedings of MERIS workshop*, ESA, Frascati, Italy, 10-14 Nov. 2003.

Mittermaier, M., R. J. Hogan, and A. J. Illingworth, Exploring new synergies between radar data and mesoscale model forecasts. Comparison of model-derived and radar-observed freezing level heights, *Proc. 31st Int. Conf. on Radar Meteorology*, Seattle, AMS, 2003.

Naud C., B. Baum, R. Bennarzt, J. Fischer, R. Frey, P. Menzel, J.-P. Mullerr, R. Preusker and H. Zhang, Inter-comparison of MERIS, MODIS and MISR cloud top heights, *Proceedings of MERIS workshop*, ESA, Frascati, Italy, 10-14 Nov. 2003.

Thompson, R. J., and A. J. Illingworth, The 'area integrated Z/ZDR' technique for improved rainfall rate estimates with operational polarisation radar, *Proc. 31st Int. Conf. on Radar Meteorology*, Seattle, AMS, 2003.

## **Conference Papers**

Brooks, M., R. Hogan, and A. Illingworth, An evaluation of the representation of clouds in the Met Office mesoscale model using long-term radar and Lidar data, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W046.

Choullarton, T., P. Clarke, and P. Field, Modelling the microphysics in frontal cloud systems, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W007.

Field, P., R. Hogan, P. Brown, A. Illingworth, T. Choullarton, P. Kaye, E. Hirst, and R. Greenaway, Simultaneous radar and aircraft observations of mixed-phase cloud at the 100m-scale, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W042.

Gaussiat, N., Ice water content from radars: Solving the density problem, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W053.

Hogan, R., E. O'Connor, and A. Illingworth, PDFs of cloud water content and humidity from cloud radar and Raman Lidar, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W045.

Mittermaier, M., A. Illingworth, and R. Hogan, Exploring new synergies between radar data and mesoscale model forecasts, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W043.

Morcrette, C., Slantwise Convection, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W002.

O'Connor, E., Observations of Stratocumulus, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper EO13.

Pavelin, E., A. Illingworth, O. Davies, and J. Goddard, Observations from the new 1275 MHz clear-air radar at Chilbolton, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W506.

Thompson, R., The 'Area Integrated Z/ZDR' technique for improved rainfall rate estimates with polarisation radar, Royal Meteorological Society Conference, University of East Anglia, Norwich, UK, 1st - 5th September, 2003. Paper W044.

Wrench, C., A. Gibson, O. Davies, and E. Slack, Combining passive microwave radiometer data with radar and Lidar to obtain cloud liquid water profiles – results from 'Chilbolton Observatory in 2003, Paper W508.

### **PhD Theses**

Mittermaier, Marion Petra, Investigating synergies between weather radar data and mesoscale model output, University of Reading, December 2003.

O'Connor, Ewan James, Lidar and radar studies of stratocumulus, University of Reading, 2003.

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## **Publications - 2004**

### **Refereed papers**

Davies, OT, CN Mitchell, PSJ Spencer, JD Nash, RJ Watson and PA Watson, 'Application of GPS phase-delay measurements in radio-science and atmospheric studies', *IEE Proc. Microwaves, Antennas and Propagation*, vol. 151, February 2004

Field, P. R., R. J. Hogan, P. R. A. Brown, A. J. Illingworth, T. W. Choullarton, P. H. Kaye, E. Hirst and R. Greenaway, Simultaneous radar and aircraft observations of mixed-phase cloud at the 100-m-scale, *Q. J. Roy. Meteorol. Soc.*, 130, 1877-1904, 2004.

Golding, B, Mylne, K, and Clark, P, The history and future of numerical weather prediction in the Met Office, *Weather*, Vol. 59, No. 11, 299-306, 2004.

Hogan, R. J., M. D. Behera, E. J. O'Connor and A. J. Illingworth, Estimating the global distribution of supercooled liquid water clouds using spaceborne lidar, *Geophys. Res. Lett.*, 32, L05106, doi:10.1029/2003GL018977, 2004.

Mittermaier, M. P., R. J. Hogan and A. J. Illingworth, Using mesoscale model winds for correcting wind-drift errors in radar estimates of surface rainfall, *Q. J. R. Meteorol. Soc.*, 130, 2105-2123, 2004.

O'Connor, E. J., A. J. Illingworth and R. J. Hogan, A technique for auto-calibration of cloud lidar, *J. Atmos. Oceanic Technol.*, 21(5), 777-786, 2004.

Tian, W., D. J. Parker, S. Mobbs, M. Hill, C. A. D. Kilburn, and D. Ladd, Observing coherent boundary layer motions using remote sensing and surface pressure measurement, *J. Atmos. Ocean. Tech.* Vol. 21, No. 9, pp. 1481-1490, 2004.

### **Non-refereed papers/Conference Proceedings**

Agnew, J., Atmospheric profiling measurements at Chilbolton Observatory, *UWERN Annual Conference*, Salford, UK, 13-15 December 2004.

Agnew, J. L., and T. J. Hewison, Comparison of water vapour profiles measured using a Raman lidar and a microwave radiometer at Chilbolton Observatory, UK, *Proceedings 22<sup>nd</sup> International Laser Radar (ILRC) Conference*, 2004.

Bennett, L., and A. Blyth, Initiation of precipitating convection in the UK, *UWERN Annual Conference*, Salford, UK, 13-15 December 2004.

Bouniol, D., A. J. Illingworth, and R. J. Hogan, Deriving kinetic energy dissipation rates within clouds using ground based 94 GHz radar, *3<sup>rd</sup> European Radar Conference*, Visby, Sweden, 6-10 September 2004.

Brook, M. E., R. J. Hogan and A. J. Illingworth, A long term comparison of cloud properties observed by vertically pointing radar and lidar with their representation in operational NWP models, *Proc. 14<sup>th</sup> International Conference on Clouds and Precipitation*, Bologna, p1293-1294, 2004.

Browning, K., Blyth, B., and Clark, P., Thunderstorms are GO!, *Planet Earth*, Winter 2004, NERC Publications, Swindon, UK.

Collier, C.G. and Davies, F. (2004) "Observations of the development of the convective boundary layer using radar and Doppler lidar", Preprints ERAD, 6-10 September, Visby, Gotland, Sweden, ERAD Publ. 2, 139-143

Gaussiat, N., R. J. Hogan, and A. J. Illingworth, Cloud water content and cloud particles characteristics revealed by dual wavelength cloud radar observations, *Proc. 14th International Conference on Clouds and Precipitation*, Bologna, p524-527, 2004.

Illingworth, A. J., and the CloudNET team, Comparison of observed cloud properties at three ground sites with their representation in operational models: The EU CloudNET project, *Proc. 14th International Conference on Clouds and Precipitation*, Bologna, p1334-1336, 2004.

Illingworth, A J and the CloudNET team: Observing cloud properties with ground based mm-wavelength radar, *3rd European Radar Conference*, Visby, Sweden, 6-10 September, p136-8, 2004.

Illingworth A. J., New radar techniques for observing clouds and precipitation at the Chilbolton Observatory, Royal Meteorological Society Meeting, London, Oct 2004.

Illingworth A. J., Hogan R. J., O'Connor E., Gaussiat N., Comparisons of cloud observations with their representation within operational numerical models; the CloudNET project. *UWERN Annual Conference*, Salford, UK, 13-15 December 2004.

Illingworth, A., R. Thompson and E. Pavelin, New radar techniques for mapping boundary level humidity and using polarisation to provide better rain rate estimates, *UWERN annual conference*, Salford, UK, 13-15 December 2004.

Kilburn, C. A. D., Chilbolton facility for atmospheric and radio research, *UWERN Annual Conference*, Salford, UK, 13-15 December 2004.

Mittermaier, M. P., R. J. Hogan and A. J. Illingworth, Using mesoscale model winds for correcting wind-drift errors in the ice for radar estimates of surface rainfall, *3rd European Radar Conference*, Visby, Sweden, 6-10 September, 2004.

Morcrette, C, Observations of arcs of convective showers during CSIP, *UWERN Annual Conference*, Salford, UK, 13-15 December 2004.

Morcrette, C, Formation and release of conditional symmetric instability following Delta-M adjustment, *UWERN Annual Conference*, Salford, UK, 13-15 December 2004.

O'Connor, E., R. J. Hogan, A. J. Illingworth, and J.-L. Brenguier, Characteristics of drizzling and non-drizzling stratocumulus as revealed by vertical pointing cloud radar, *Proc. 14<sup>th</sup> International Conference on Clouds and Precipitation*, Bologna, p612-615, 2004.



Rico-Ramirez, M. A., I. Cluckie, and D. Han, Correction for the bright band enhancement using dual-polarization scanning weather radar measurements for real-time operation, *Sixth International Symposium on Hydrological Applications of Weather Radar, Success Stories in Radar Hydrology*, Melbourne, Australia, 2004.

Rihan, F.A., Collier, C.G., Ballard, S.P. and Swarbrick, S.J.: On the assimilation of Doppler radial winds into a high resolution NWP model", *3rd European Radar Conference*, 6-10 September, Visby, Gotland, Sweden, ERAD Publ. 2, 487-493, 2004

Thompson, R., and A. J. Illingworth, Estimating light to moderate rainfall rates with polarisation radar, *3rd European Radar Conference*, Visby, Sweden, 6-10 September, 2004.

### **Other Presentations**

Bradford, W. J., J. D. Eastment and J. W. F. Goddard 'Radar measurements of cloud, precipitation and related atmospheric processes'. Wheatstone Measurement Prize presentation, IEE, Savoy Place, London, UK. 8 th December, 2004.

Donovan, D., Comparing elastic backscatter lidar + radar extinction in cirrus clouds with Raman Lidar, 3rd Cloudnet Workshop, TUD, Delft, 18/19 October 2004

Donovan, D., Validating satellite measured cloudtop temperature using Cloudnet data, 3rd Cloudnet Workshop, TUD, Delft, 18/19 October 2004

Gaussiat, N. Use of ceilometer to constrain radiometer LWP retrievals, 3rd Cloudnet Workshop, TUD, Delft, 18/19 October 2004

Hogan, R., Latest Z-IWC-T relationships from aircraft analysis, 3rd Cloudnet Workshop, TUD, Delft, 18/19 October 2004

Illingworth, A. J., and R. J. Hogan, Using observations of clouds and radiation at Chilbolton UK to evaluate NWP models, Invited talk, *ARM annual meeting*, Albuquerque, New Mexico, USA, 24 March 2005.

Illingworth A. J., New radar techniques for observing clouds and precipitation at the Chilbolton observatory, Royal Meteorological Society Meeting, London, Oct 2004.

Krasnov, O. Radar-lidar retrievals of water cloud parameters, 3rd Cloudnet Workshop, TUD, Delft, 18/19 October 2004

Muller, J-P., S.J.Chan, W.Krebs, A.Lorenz, H.Mannstein, C.L.Wrench, E.C.Slack, E.E.Clothiaux, 'Ground-based Processing Systems - Macroscopic cloud properties' CLOUDMAP2 - Deliverable D04-Final Report, (2004)

Pavelin, E. G. J. D. Eastment and O. T. Davies, 'Clear air studies with the ACROBAT 1275 MHz radar'. Chilbolton Community Meeting, Church House Conference Centre, Westminster, London, UK. 7 th June, 2004.

Seiz, G., D. Poli, M.Baltsavias, A.Gruen, J.Quiby, P.Kaufmann, C.M.Naud, J-P.Muller, J.Chan, E.E.Clothiaux, P.Albert, R.Preusker, J.Fischer, C.Poulsen, C.L.Wrench, P.deValk, H.Roozekrans, A.Thoss, H.Mannstein, W.Krebs, G.Gesell, 'Validation of EO Macroscopic cloud parameters' CLOUDMAP2 - Deliverable D12-Final Report, (2004)

Smyth, T., E.E.Clothiaux, E.S.Slack, C.L.Wrench, P.Albert, R.Preusker, L.Schüller, J. Fischer, G. Gesell 'Demonstration of Near Real Time CLOUDMAP2 products on web' CLOUDMAP2 - Deliverable D19-Final Report, (2004)

Wrench, C.L., E.E.Clothiaux, E.C.Slack 'Ground-based active sensor data - Macroscopic cloud properties' CLOUDMAP2 - Deliverable D09-Final Report, (2004)

### **PhD Theses**

Callaghan, S.A., Fractal analysis and synthesis of ran fields for radio communication systems, University of Portsmouth, June 2004.

Morcrette, C., Radar and Modelling Studies of Upright and Slantwise Convection, University of Reading, July 2004.

Rico-Ramirez, M. A., Quantitative weather radar and the effects of the vertical reflectivity profile, University of Bristol, September 2004.

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### **Publications - 2005**

#### **Refereed papers**

Brooks, M. E., R. J. Hogan and A. J. Illingworth, Parameterizing the difference in cloud fraction defined by area and volume as observed with radar and lidar, *J. Atmos. Sci.* 62, 2248-2260, 2005.

Clark, P. D., T. W. Choullarton, P. R. A. Brown, P. R. Field, A. J. Illingworth and R. J. Hogan, Numerical modelling of mixed-phase frontal clouds observed during the CWVC project, *Q. J. R. Meteorol. Soc.*, 131, 1677-1693, 2005.

Jolivet, D., Feijt, A.J., "Quantification of the accuracy of liquid water path fields derived from NOAA 16 advanced very high resolution radiometer over three ground stations using microwave radiometers", *J. Geophys. Res.* 110, D11204, 2005

Hogan R. J., and S. F. Kew, A 3D stochastic cloud model for investigating the radiative properties of inhomogeneous cirrus clouds, *Q. J. R. Meteorol. Soc.*, 131 2585-2608, Part A, Oct 2005.

Hogan, R. J., N. Gaussiat and A. J. Illingworth, Stratocumulus liquid water content from dual-wavelength radar, *J. Atmos. Oceanic Technol.*, 22, 1207-1218, 2005.

Marshall J. H., and S. Dobbie, The effects of wind shear on cirrus: A large-eddy model and radar case-study, *Q. J. R. Meteorol. Soc.*, 131, 2937-2955 Part A, Oct 2005.

Naud, C. M., J. P. Muller, E. E. Clothiaux, B. A. Baum, and W. P. Menzel, Intercomparison of multiple years of MODIS, MISR and radar cloud-top heights *Annales Geophysicae* 23 (7), 2415-2424, 2005

Naud, C. M., J. P. Muller, E. C. Slack, C. L. Wrench, and E. E. Clothiaux, Assessment of the performance of the Chilbolton 3-GHz advanced meteorological radar for cloud-top-height retrieval, *J. Appl. Meteorol.*, 44(6), 876-887, 2005.

O'Connor, E. J., R. J. Hogan and A. J. Illingworth, Retrieving stratocumulus drizzle parameters using Doppler radar and lidar, *J. Appl. Meteorol.*, 44(1), 14-27, 2005.

Rico-Ramirez, M. A., Cluckie, I. D. and Han, D., Correction of the bright band using dual-polarisation radar. *Atmos. Sci. Lett.*, 6: 40-46, 2005.

Tinel, C, J. Testud, J. Pelon, R. J. Hogan, A. Protat, J. Delanoe, and D. Bouniol, The retrieval of ice-cloud properties from cloud radar and lidar synergy, *J. Appl. Meteorol.*, 44(6), 860-875, 2005.

Upton, G. J. G., A. R. Holt, R. J. Cummings, A. R. Rahimi, J. W. F. Goddard, Microwave links: The future for urban rainfall measurement?, *Atmospheric Research*, 77, 300-312, Sep-Oct 2005.

Wolters, E.L.A., Roebeling, R.A., Feijt, A.J., "Validation of Cloud thermodynamic phase and cloud top temperature from MSG-SEVERI with groundbased measurements", *Geophys. Res. Abs.*, 7, 04756, 2005

### **Non-refereed papers/Conference Proceedings**

Cimini D., V. Cuomo, S. Laviola, T. Maestri, P. Mazzetti, S. Nativi, J. M. Palmer, R. Rizzi, and F. Romano, Cloud Parameters from Infrared and Microwave Satellite Measurements, Proceedings of 14th International TOVS Study Conference, Beijing, China, 25-31 May 2005.

### **Other Presentations**

Agnew, J., Measurements of aerosol profiles at Chilbolton Observatory, paper M129, *Royal Meteorological Society Conference*, Exeter, UK, 12-16 September 2005.

Bennett, L., and A. Blyth, A study of the initiation of convection during CSIP, paper W34, *Royal Meteorological Society Conference*, Exeter, UK, 12-16 September 2005.

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21 August 2005	BBC2 TV Series - Countryfile, 11:30, ~7 mins
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26 December 2005	Meridian TV interview about Chilbolton's role in Galileo
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