

PUBLICATIONS: Howard C. Reader

Books

Tse Voon Chow Ting Chan and Howard C Reader, "Understanding Microwave Heating Cavities," Artech House Publishers, Boston and London, ISBN: 1-58053-094-X, June 2000.

International journal publications

- A1. *H C Reader and S Evans, "Feed-point reflection coefficient of an element in a scanning antenna array: time domain measurements," IEE Proceedings, Vol. 134, Part H, No.2, April 1987, pp. 211-215.*
- A2. *S Evans and H C Reader, "An impulse generator for antenna measurements in the time domain," Jnl of Physics, part E: Scientific Instruments, Vol. 21, 1988, pp. 657-660.*
- A3. *S Lucyszyn, V Magnier, H C Reader and I D Robertson, "Ultra-wideband measurement of multiple-port MMIC's using non-ideal test fixtures and a 2-port ANA", IEE Proceedings, Part A, Vol. 139, No. 5, Sept 1992, pp. 235-242.*
- A4. *G A Hoile and H C Reader, "A non-linear MOSFET model for the design of RF power amplifiers", IEE Proceedings, Part G, Vol 139, No. 5, Oct 1992, pp. 574-580.*
- A5. *C A Meijer and H C Reader, "Analysis of microstrip patch antennas using a finite difference technique", IEE Electronic Letters, Vol 29, No. 4, Feb 1993, pp. 343-345.*
- A6. *G A Hoile and H C Reader, "Computer-aided design of an RF MOSFET power amplifier", IEE Proceedings, Part G, Vol. 141, No. 6, Dec 1994, pp. 433-438.*
- A7. *T V Chow Ting Chan and H C Reader, "Modelling of Modes and Perspectives on Multiple-Feeds in Microwave Ovens", Journal of Microwave Power and Electromagnetic Energy, Vol. 31, No. 4, Dec 1996, pp. 238 - 250.*
- A8. *H C Reader and T V Chow Ting Chan, "Experimental and Numerical Field Studies in Loaded Multimode and Single mode Cavities", Journal of Microwave Power and Electromagnetic Energy, Vol. 33, No. 2, 1998, pp.103 - 112.*
- A9. *J van der Merwe, H C Reader, J H Cloete, "S-Parameter Measurements Yielding The Characteristic Matrices of Multi-conductor Transmission Lines", IEEE Trans. on Electromagnetic Compatibility, Vol. 40, No. 3, Aug 1998, pp. 249 - 256.*
- A10. *L H Becker, J H Cloete, H C Reader, "Radio frequency coupling between an antenna and two unshielded parallel wires above a metal sheet-measurement precautions", IEEE Trans. on Electromagnetic Compatibility, Vol. 43, No. 1, Feb 2001, pp. 85 - 88.*
- A11. *T E W Stuart, H C Reader, J H Cloete, "RF measurement of Wire Complex Permeability", IEE Electronics Letters, Vol. 39, No. 1, Jan 2003, pp. 25-26.*

- A12. *P Kabos, H C Reader, U Arz, D F Williams*, "Calibrated Waveform Measurement with High-Impedance Probes", *IEEE Trans. Microwave Theory and Techniques*. Vol. 51, No. 2, Feb 2003, pp. 530-535.
- A13. *J van der Merwe, J H Cloete, H C Reader*, "Transients on Multiconductor Transmission Lines above Dissipative Earth - Numerical Simulation and Measurement", *IEEE Trans. on Electromagnetic Compatibility*, Vol. 45, No. 2, May 2003, pp. 405-415.
- A14. *N W Ebertsohn, R H Geschke, H C Reader*, "Cable Trays in EMC: Measurement and Modeling to 30 MHz", *IEEE Trans. on EMC*, Vol. 49, No. 2, Ma, 2007, pp. 1 - 8.
Note: correction to Fig. 4 legend published in Vol. 50.
- A15. *S M Bradshaw, W J Louw, C van der Merwe, H C Reader, S Kingman, M Celuch, W Kijewska*, Techno-economic Considerations in the Commercial Microwave Processing of Mineral Ores, *Journal of Microwave Power & Electromagnetic Energy* Vol. 40, No. 4, 2007, pp. 228 - 240.
- A16. *R G Urban, H C Reader, J P Holtzhausen*, "Small Corona Cage for Wideband HVac Radio Noise Studies: Rationale and Critical Design", *IEEE Trans. Power Delivery*, Vol. 23, No. 2, April 2008, pp 1150 - 1157.
- A17. *H C Reader, D F Williams, P D Hale, T S Clement*, "Comb-Generator Characterization", *IEEE Trans. Microwave Theory and Techniques*, Vol. 56, No. 2, Feb 2008, pp. 515 - 521.
- A18. *A J Otto and H C Reader*, "Wideband HVDC Conductor Corona Radio Noise Predictions", *IEEE Trans. Power Delivery*, Vol. 25, No. 4, Oct 2010, pp. 2950 - 2957.
- A19. *P S van der Merwe, H C Reader, D J Rossouw*, "Cable Tray Connections for Electromagnetic Interference (EMI) Mitigation", *IEEE Trans. on EMC*, Vol. 53, No. 2, May 2011, pp. 332 - 338.
- A20. *P G Wiid, H C Reader, R H Geschke*, "Radio Frequency Interference and Lightning Studies of a Square Kilometre Array Demonstrator Structure ", *IEEE Trans. on EMC*, Vol. 53, No. 2, May 2011, pp. 543 - 547. (Correction to two figures published in Vol. 53, No. 4)
- A21. *A J Otto and H C Reader*, "HVDC Corona Space Charge Modeling and Measurement", *IEEE Trans. Power Delivery*, Vol. 26, No. 4, Oct 2011, pp. 2630 - 2637.
- A22. *N S Tezel, H C Reader and D B Davidson*, "RFI Shielding Effectiveness of a Soil Berm", *Microwave and Optical Technology Letters*, Vol. 59, No. 1, Jan 2017, pp. 17 - 21
available on <http://onlinelibrary.wiley.com/doi/10.1002/mop.30211/full>
- A23. *H Pienaar, H C Reader and D B Davidson*, "Karoo Array Telescope Berm Shielding: Efficient Computational Modeling and Multicopter Measurement", *IEEE Trans. on EMC*, Vol. 59, No. 2, Apr 2017, pp. 375 - 382.
<http://ieeexplore.ieee.org/document/7726060/?part=1>

National journal publications

- AA1. *K Williams and H C Reader*, "Computer Aided Modelling of an Injection-Locked Oscillator for an Active Array", *Trans. South African Institute of Electrical Engineers, Special Issue on the Joint AP/MTT Symposium*, Vol. 88, No. 3, Sept 1997, pp. 104-108.
- AA2. *P Kibet-Langat, P S van der Merwe, T Ikin, H C Reader*, "CAT-7 System Evaluation for Square Kilometre Array Analogue Signal Transport", *SAIEE Africa Research Journal*, Vol 102, No. 1, Mar 2011, pp. 2-7.
- AA3. *M Roman, R R van Zyl, H C Reader, J A Andriambeloson*, "Reverberation Chamber Low Frequency Field Uniformity Improvement with Conducting Pyramidal Structures", *SAIEE Africa Research Journal*, Vol 103, No. 4, Dec 2012, pp. 150-154.

International conferences

- B1. *H C Reader, S Evans and W K Yeung*, "Illumination of a rectangular slot radiator over a 3 octave bandwidth", 4th International Conference on Antennas & Propagation, ICAP 85, Warwick, U.K., IEE Conf. Publ. No. 248, April 1985, pp. 223-226.
- B2. *H C Reader and S A McDonald*, "Time domain and infra-red analysis of ridged horn antennas," IEE ICAP91, York, IEE Conf. Publ. No. 333, April 1991, pp. 412-415.
- B3. *H C Reader and P Kennedy*, "The microstrip patch antenna: experimental observations," IEE ICAP91, York, IEE Conf. Publ. No. 333, April 1991, pp. 352-355.
- B4. *I D Robertson, H C Reader and A H Aghvami*, "Operating modes in wideband MMIC FET mixers", IEEE Asia Pacific Microwave Conference, Adelaide, 1992, Conference Proc. pp. 747-50.
- B5. *H C Reader and A D Broadhurst*, "Prediction of the radiation pattern of phased array antennas using modified S-Parameter measurements", IEE ICAP93, Edinburgh, IEE Conf. Publ. No. 370, April 1993, pp. 768-772.
- B6. *H C Reader, K Williams and G A Hoile*, "Nonlinear modelling of 1 Watt active patch antenna", IEE ICAP95, Eindhoven, IEE Conf. Publ. No. 407, April 1995, pp. 175-178.
- B7. *H C Reader, R Savo, N Lecler and S Lorentz*, "Time domain methods for soil moisture determination", IEE ICAP95, Eindhoven, IEE Conf. Publ. No. 40, April 1995, pp. 387-390.
- B8. *T V Chow Ting Chan and H C Reader*, "Computational Design of A Multiple Magnetron Cavity", IEEE Africon '96, Stellenbosch, Sept 1996, SA-066, pp. 523-527.
- B9. *J H Cloete, H C Reader, J van der Merwe, F E du Plessis and L H Becker*, "Experiments for Undergraduate Courses in Electromagnetic Theory and EMC", IEEE Africon '96, Stellenbosch, Sept 1996, SA-066, pp. 362-365.

- B10. *K Williams, D B Davidson, H C Reader*, "FDTD Modelling of Aperture Coupled Patch Antennas for use in an Active Array, IEE ICAP97, Heriot-Watt University, Edinburgh, IEE Conf. Publ. No. 436, April 1997, pp. 1.338-1.341.
- B11. *JB Maree and H C Reader*, "The Product / System Development Life-cycle - An EMC Approach", IEE EMC York '99, York, IEE Conf. Publ. No. 464, July 1999, pp.151-156.
- B12. *H C Reader and T V Chow Ting Chan*, "Measurement and Computation of Fields In Partially Loaded Microwave Cavities", session A2: Materials Measurements, URSI 100th Anniversary General Assembly XXVI, Toronto, August 1999, paper A2.9, p. 9.
- B13. *H C Reader, J van der Merwe, J H Cloete*, "Accurate Measurements for Multiconductor Transmission Line Analysis", session EA: EMC and EM Pollution, URSI 100th Anniversary General Assembly XXVI, Toronto, Aug 1999, p. 710.
- B14. *T E W Stuart, H C Reader and J van der Merwe*, "Radiation to Transmission Lines with Varying Load and Ground Conditions", IEEE Africon '99, Cape Technikon, Sept 1999, pp. 1135-1138.
- B15. *S M Bradshaw, D Jordaan, H C Reader, J W Gerber, J B De Swardt and T V Chow Ting Chan*, "Economic Viability of Microwave-assisted Bricks Drying", 7th International Conference on Microwave and High Frequency Heating, AMPERE, Valencia, Spain, Sept 1999, paper A4.1, pp. 275-278.
- B16. *J van der Merwe, J H Cloete, H C Reader*, "Inclusion of Dissipative-Earth Effects into the Multiconductor Transmission Line FDTD Algorithm", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 99, Turin, Italy, Sept 1999, pp. 655-658.
- B17. *S M Bradshaw, D Jordaan, H C Reader, J W Gerber, J B De Swardt and T V Chow Ting Chan*, "Developing Microwave Solutions for Industry", Second World Congress on Microwave and RF Processing, Orlando, April 2000, paper MWA-AP3-04, (revised, reviewed paper requested for final conference publication).
- B18. *M Rimbi and H C Reader*, "Dielectric Measurement Using Internally Calibrated Split-Stripline Fixture", Second World Congress on Microwave and RF Processing, Orlando, April 2000, abstract paper MWC-DP1-04, (requested, revised and reviewed paper incorporated into final conference publication).
- B19. *H C Reader, T E W Stuart, M Bemmelmans*, "Metrology in Electromagnetics: Simple Problems", Millennium Conference on Antennas and Propagation, Davos, ESA (European Space Agency), SP-444 Proceedings, April 2000, Session 3P7, paper 0527.
- B20. *H C Reader*, "Understanding Microwave Heating Systems: A Perspective on State-of-the-Art", **Invited Plenary Paper**, 8th Int. Conf. On Microwave and HF Heating, Bayreuth, Germany, Sept. 2001. **Selected papers including this one, published in Springer-Verlag journal, "Advances in Microwave and Radio Frequency Processing", edited by M. Willert-Porada, Netherlands, 2006, ISBN-10: 3-540-43252-3, pp. 3-14.**

- B21. *T E W Stuart, J H Cloete, H C Reader*, "The Effect of Thin Round Wire Material Properties on the Sommerfeld Mode", International Conference on Electromagnetics in Advanced Applications, ICEAA 2001, Torino, Italy, Sept 2001.
- B22. *U Arz, H C Reader, P Kabos, D F Williams*, "Wideband Frequency-Domain Characterization of High-Impedance Probes", 58th ARFTG Conference (Automatic RF Techniques Group), San Diego, Nov 2001, Tech. Session 3 of Conf. Digest. **(WON BEST PAPER AWARD IN POSTER SECTION)**.
- B23. *R G Urban, H C Reader, J P Holtzhausen*, "AC Transmission Line Corona Noise Issues in a Small Corona Cage", IEEE Africon '02, Fancourt, George, Proceedings, Vol. 2, Oct. 2002, pp. 639 - 644.
- B24. *S M Bradshaw, T V Chow Ting Chan, H C Reader, R Geschke, S A Kingman and K Jackson*, "Quantifying Applicator Design for Microwave Assisted Comminution", 10th Int. Conf. On Microwave and HF Heating, Loughborough, UK, Sept. 2003.
- B25. *K D Palmer and H C Reader*, "Electromagnetics in South Africa: Perspectives and Recent Achievements", **Invited Semi-Plenary Paper**, Session 2IN1, EuCAP 2006, Nice, paper no. 430866, CD ISBN Number: 92-9092-9375, Nov. 2006.
- B26. *H C Reader and M D Janezic*, "Coaxial Probe Dielectric Measurements: Practical Dotting "i's" and Crossing "t's", 68th ARFTG Conference, Omni Interlocken Resort, Broomfield, Colorado, CD Session 6, Dec. 2006.
- B27. *M Rimbi, H C Reader, P Meyer and C Vale*, "Characterization of a Choke for a Microwave Applicator", International Microwave Power Institute, IMPI 41st Annual Symposium, Vancouver, Canada, Proceedings ISSN: 1070-0129, Aug. 2007, pp. 21-24.
- B28. *H C Reader, R H Geschke, P G Wiid, P S van der Merwe, R G Urban, D J Rossouw*, "Issues in EMC Metrology and Modelling for Square Kilometre Array Demonstrator", URSI XXIX General Assembly, Chicago, Illinois, USA, Aug. 7-16, 2008, CD under session AE: EMC Measurements.
- B29. *H C Reader, P G Wiid, R H Geschke*, "Developments in EMC Computational and Scale Modelling of Square Kilometre Array Demonstrator", 2009 ESA Workshop on Aerospace EMC, Florence, Italy, 30 Mar-1 April 2009.
- B30. *A J Otto, P J Pieterse, H C Reader*, "Ion Space Charge Measurement and Simulation", Proc. of the 16th International Symposium on High-Voltage (ISH), Cape Town, Paper B-2, 24-28 Aug 2009, pp. 24-28.
- B31. *T.S. Ikin, P.N. Wilkinson, A.J. Faulkner, M. Jones, A. Baird, A.K. Brown, D. George, G. Harris, P Kibet-Langat, M. Panahi, H.C. Reader, S. Schediwy, P.S. van der Merwe, K. Zarb-Adami, and Y. Zhang*, "Progress on Analogue Front end for 2PAD", Widefield Science and Technology for the SKA SKADS Conference 2009, S.A. Torchinsky, A. van Ardenne, T. van den Brink-Havinga, A. van Es, A.J. Faulkner (eds.), Chateau de Limelette, Belgium, 4-6 Nov 2009, pp. 267-272.

- B32. *D J Rossouw, H C Reader and J Badenhorst*, "Flanged Coaxial Material Probes: Characterizing Exterior CM Energy", 74th ARFTG Conference, Omni Interlocken Resort, Broomfield, Colorado, Dec 2009.
- B33. *E de Lera Acedo, N Razavi-Ghods and H C Reader*, "Testing scaled prototypes for the SKA-AAlo; experiences, issues and alternatives", AP-S/URSI 2011 Conference, Spokane Convention Center, Spokane, Washington, July 3-8 2011.
- B34. *A J Otto, H C Reader and R G Marchand*, "Complex permittivity measurements of Karoo soil for the Square Kilometre Array", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2011, Turin, Italy, session 14 on EM Measurements (AJO session chair), Sept 2011.
- B35. *P S van der Merwe, A J Otto and H C Reader*, "Practical Definition of Interface Barrier Effective Shielding", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2011, Turin, Italy, session 45 on EMC/EMI/EMP, Sept 2011.
- B36. *H C Reader, P S van der Merwe, A J Otto, P G Wiid, P K Langat, J A Andriambeloson and C van der Merwe*, "South African SKA Demonstrator Systems: Evolving RFI Mitigation Investigations", URSI XXX General Assembly, Istanbul, Turkey, Aug 13-20 2011, CD under session E08: Surveys of the EM Environment, Print ISBN: 978-1-4244-6051-9.
- B37. *P G Wiid, H C Reader, R H Geschke*, "Karoo Array Telescope: Lightning Protection Issues and RFI", URSI XXX General Assembly, Istanbul, Turkey, Aug 13-20 2011, CD under session E09: Lightning and Related Effects II., Print ISBN: 978-1-4244-6051-9.
- B38. *J A Andriambeloson, P G Wiid, H C Reader*, "Reverberation Chamber: Calibration, Evaluation and Application in Transfer Impedance Measurement", IEEE Africon '11, Victoria Falls, Zambia, CD Proceedings, IEEE Cat. No. CFP11AFR-CDR, Sept 2011, paper NF-001813.
- B39. *M H Volkmann, C J Fourie, W J Perold, D Davidson, D I L De Villiers and H C Reader*, "Superconducting circuits in the Square Kilometre Array," EUCAS-ISEC-ICMC Superconductivity Centennial Conference, The Hague, 18-23 Sept 2011.
- B40. *Eloy de Lera Acedo, Nima Razavi Ghods, Paul Scott, Peter Doherty, Keith Grainge, Andrew Faulkner, Paul Alexander, David González-Ovejero, Christopher Raucy, Christophe Craeye, Nick Drought, Nick Troop, Paul van der Merwe, Howard C. Reader*, "SKA AA-low Front-End Developments (at Cambridge University)", 6th EuCAP 2012, Prague Congress Centre, Prague, Czech Republic, session CA07 on Imaging Arrays for Space and Astronomy., CD ISBN Number: 978-1-4577-0919-7, 26 - 30 Mar, 2012 (Supported by IEEE, URSI, ESA; IEEE Explore access and Thomson Reuters ISI Web of Science).
- B41. *H C Reader, P S van der Merwe, A J Otto, P G Wiid, J A Andriambeloson, P K Langat, B Kruizinga*, "EMC Techniques for a Complex Project: Karoo Array Telescope", 2012 ESA Workshop on Aerospace EMC, Palazzo Cavalli Franchetti, Venice, Italy, 21 - 23 May 2012. (IEEE/URSI Co-sponsored), SP-702 Proceedings, DVD ISBN: 978-92-9092-266-7, 2nd Paper, Session 1.

- B42. *H C Reader, A J Otto, P S van der Merwe, P G Wiid, J A Andriambeloson and A R Botha, "MeerKAT RFI Environment Modeling and Metrology", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2012, Session 01, ISBN 978-1-4673-0335-4, Cape Town, South Africa, Sept 2012.*
- B43. *J A Andriambeloson, P G Wiid and H C Reader, "Reverberation Chamber and Current Injection Cable System Study in Frequency and Time Domains", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2012, Session 27, ISBN 978-1-4673-0335-4, Cape Town, South Africa, Sept 2012.*
- B44. *P G Wiid, K D Palmer, P S van der Merwe and H C Reader, "A Practical 50:1 Bandwidth PCB-LPDA Antenna for MeerKAT RFI Studies", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2012, Session 37, ISBN 978-1-4673-0335-4, Cape Town, South Africa, Sept 2012.*
- B45. *P G Wiid, K D Palmer, P S van der Merwe and H C Reader, "Practical Antennas for RFI Monitoring of the SKA Environment", Radio Astronomy Conference, Mauritius, Sept 2012.*
- B46. *H C Reader, "Components of EMC Thinking Relevant to Radio Astronomy Sites", APEMC 2013, Melbourne, Australia, Session TC18-1, ISBN 978-1-9221-0702-2, May 2013, paper 145.*
- B47. *A R Botha, H C Reader, J Manley, P W van der Walt, S Malan, H Kriel, P S van der Merwe, P Meyer, R J Anderson, W Croukamp, "Dynamic RFI Measurement Systems on a ROACH-2 Platform", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2013, Turin, Italy, ISBN 978-1-4673-5705-0, Sept 2013, pp. 502-505.*
- B48. *E de Lera Acedo, H C Reader, N Razavi-Ghods, "Measurements and Characterization of differentially-fed antennas for radio astronomy; the case of SKALA", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2013, Turin, Italy, Sept 2013, ISBN 978-1-4673-5705-0, pp. 968-971.*
- B49. *J A Andriambeloson, H C Reader, A R Botha, "A Time-Domain Nested-Enclosure Technique for Shielding Effectiveness Characterization", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2013, Turin, Italy, ISBN 978-1-4673-5705-0, Sept 2013, pp. 901-904.*
- B50. *M Cole, E de Lera Acedo, H C Reader, "EM Modelling of Lightning Effects on SKA-low Array Antennas", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2013, Session 21, Turin, Italy, ISBN 978-1-4673-5705-0, Sept 2013, pp. 1044-1047.*
- B51. *B Kruizinga, A P J van Deursen, H C Reader, "Issues of Arcing on High-Voltage Lines and their EMC aspects for the SKA project", Proc. EMC Europe 2013, Brugge, Belgium, ISBN 978-1-4673-4980-2, Sept 2-6, 2013, pp782-785.*
- B52. *H C Reader, "EMC Aspects of the Square Kilometre Array in South Africa", AMEREM-2014, University of New Mexico, Albuquerque, New Mexico, USA, **Invited Plenary talk**, abstract paper, July 27-31, 2014, Paper ID 045.*

- B53. *H C Reader*, "SKA and EMC: The Need for Science and Engineering Dialogue", URSI XXX General Assembly, Beijing, China, Aug 14-23 2014, Invited Commission E Tutorial, Proceedings on USB, Paper 3042.
- B54. *P G Wiid and H C Reader*, "Towards Electromagnetic Characterization of MeerKAT Telescope", URSI XXX General Assembly, Beijing, China, Aug 14-23 2014, session E01, Paper 2648.
- B55. *H Pienaar and H C Reader*, "Model and Full-scale Study of Soil Berm for Karoo Array Telescope Shielding", Proc. EMC Europe 2014, Gothenburg, Sweden, Sept. 2014, pp. 1054-1057.
- B56. *H Pienaar and H C Reader*, "Multicopter Metrology Platform for Propagation Measurements", Proc. of the Int. Conf. on Electromagnetics in Advanced Applications, ICEAA 2015, Incontra Congress Centre, Turin, Italy, ISBN: 978-1-4799-7805-2, Sept. 2015, pp. 370-374.
- B57. *H Pienaar, A J Otto, P S van der Merwe, D B Davidson and H C Reader*, "Building Electromagnetic Shielding Characterisation using Multicopter", APEMC 2016, 7th Asia-Pacific Intl. Symp. on EMC and Signal Integrity, Shenzhen, China, May 18-21, 2016.
- B58. *H C Reader, J A Andriambeloson, K M Coetzer, C J Bryant, D Gouws, E Saunderson, A J Otto, P S van der Merwe, T Nkawu, S Tshongweni*, "Contemporary EMC Investigations on some South African Science Projects", ICEAA 2012, Session 8, IEEE 978-1-6654-8111, Cape Town, South Africa, 5 – 9 Sept 2012. Invited industrial paper.

International colloquia

- C1. *H C Reader and S Evans*, "Broadband measurement of coupling in a scanned array", IEE Colloquium on Antenna and Bandwidth Extension techniques. Professional Group E11, Oct 1985, Digest No.1985/87.
- C2. *S Evans, E N Clouston and H C Reader*, "Gates and domains", IEE Colloquium on: 'Advances in the direct measurement of antenna radiation characteristics in indoor environments', London, Jan 1989, pp. 21-25.
- C3. *I D Robertson and H C Reader*, "Libra modelling of a monolithic distributed FET mixer", EESOF Users' Group Meeting, 21st European Microwave Conference, Stuttgart, Sept 1991.
- C4. *J B de Swardt, H C Reader, T V Chow Ting Chan*, "Investigation of the Multimode Cavity for Chemical Engineering Processes: Stellenbosch University", World Congress on Microwave Dielectric Heating, Florida, Jan 1997.
- C5. *D F Williams, H C Reader, T S Clement, P D Hale, J M Morgan, S Vandenplas, J Versprecht, F Verbyst, M Van den Bossche*, "Comb-Generator Characterization with Calibrated Oscilloscopes", 2nd Nonlinear Measurements Workshop along with 60th ARFTG Conference (Automatic RF Techniques Group), Washington D.C., Dec 2002.

- C6. *H C Reader*, “EMC in the Measurement Laboratory”, NIST ARFTG Microwave Measurements and Instrumentation Short Course paper, 62nd ARFTG Conference, Boulder, Colorado, Dec 2003.
- C7. *H C Reader, R G Urban, R H Geschke*, “The One Eye and Two Ears of EMC: Metrology” 2005 SA IEEE AP/MTT Conference, all invited papers, abstracts published only, Technopark, Stellenbosch, Mar 2005.
- C8. *H C Reader*, “EMC Issues in Metrology”, NIST/ARFTG Measurement Short Course paper, 68th ARFTG Conference, Omni Interlocken Resort, Broomfield, Colorado, Nov 2006.
- C9. *H C Reader, R H Geschke, N W Ebertsohn, J Badenhorst, M D Janezic*, “Transfer Impedance, EMI sensors and HF Metrology” 2007 SA IEEE AP/MTT Conference, all invited papers, abstracts published only, Technopark, Stellenbosch, Mar 2007.
- C10. *P G Wiid, H C Reader, R H Geschke, P S van der Merwe, P Kibet-Langat*, “Developing RFI Studies on KAT-7: Lightning, Earthing and Cabling” 2009 SA IEEE AP/MTT Conference, all invited papers, abstracts published only, Technopark, Stellenbosch, Mar 2009.
- C11. *H C Reader*, “Aperture Array Antenna Design: Metrology and EMC Experience”, Opening tutorial paper for Aperture Array Verification Programme (AAVP) Front-end Workshop, Cavendish Laboratories, Cambridge, 7, Dec, 2010
- C12. *E de Lera Acedo, N Razavi-Ghods, H C Reader, P J Duffett-Smith, P Scott, A Faulkner and P Alexander.*, “SKA-AALo Antenna Element: Testing Prototypes”, Aperture Array Verification Programme (AAVP) Workshop, Poster Session, Cavendish Laboratories, Cambridge, 8 - 10 Dec 2010.
- C13. *H C Reader, P Kibet-Langat, J A Andriambelason, C van der Merwe, P S van der Merwe, A J Otto and P G Wiid*, “Recent Research and Developments for KAT-7 RFI Mitigation and EMC”, 2011 SA IEEE AP/MTT/EMC Conference, all invited papers, abstracts published only, Spier Conference Centre, Stellenbosch, South Africa, 14-15 April 2011.
- C14. *H C Reader*, “**New Robust Approaches to Designing Large Radio Research Instruments**”, **Invited Plenary Paper**: IEEE Africon 2013, URSI B,E,J Commissions, Special Session on Large Scale Science Projects: Europa-Africa Connects, abstract published only, ISBN 978-1-4673-5940-5, Le Meridien Ile Maurice, Mauritius, 9-12 Sept. 2013, p. 1334.
- C15. *H C Reader, P S van der Merwe, A J Otto, P G Wiid, J A Andriambelason, H Pienaar and N Matthysen*, “Practicalities of MeerKAT System Deployment with EMC Perspective”, 2014 SA IEEE AP/MTT/EMC Conference, all invited papers, abstracts published only, Pretoria, South Africa, 5-6 May 2014.
- C16. *N S Tezel, H C Reader and D B Davidson*, “Evaluating Shielding Properties of Nuweberg at Karoo Array Telescope”, 2014 SA IEEE AP/MTT/EMC Conference, all invited papers, abstracts published only, Pretoria, South Africa, 5-6 May 2014.

Local peer-reviewed conferences

- D1. *A E Graham and H C Reader*, "S-Parameter analysis of carbon loaded foam leading to manufacture of microwave absorbing material". SAIEE Second Joint Symposium on Antennas & Propagation and Microwave Theory and Techniques, Pretoria, AP/MTTS-88 Proceedings, Aug 1988, pp. 3.1 - 3.8.
- D2. *H A Lundie and H C Reader*, "Hybrid thin film technology for M.I.C.'s". 1988 SAIEE Second Joint Symposium on Antennas & Propagation and Microwave Theory and Techniques, Pretoria, AP/MTTS-88 Proceedings, Aug 1988, pp. 10.1 - 10.8.
- D3. *P Kennedy and H C Reader*, "Observations on microstrip patch antenna resonant behaviour using a novel time and frequency domain analysis technique", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, Somerset West, AP/MTTS-90 Proceedings, Aug 1990, pp. 67-74.
- D4. *S A McDonald and H C Reader*, "An empirical study of ridged horn antennas," IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, Somerset West, AP/MTTS-90 Proceedings, Aug 1990, pp. 51-58.
- D5. *H C Reader, C C Phillips and J R F Strode*, "Design considerations for high frequency, high density inter-connects on hybrid multi-chip modules, IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, Somerset West, AP/MTTS-90 Proceedings, Aug 1990, pp. 215-222.
- D6. *A D Broadhurst and H C Reader*, "Directivity patterns of phased array antennas", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, Fourways, AP/MTTS91 Proceedings, Aug 1991, pp. 1-8, **(WON OVERALL PRIZE IN ANTENNA SECTION)**.
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- D9. *J R F Strode and H C Reader*, "Transmission lines on multi-chip modules, IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS92, Durban, Sept 1992, pp. 137-144.
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- D11. *N R Naidoo and H C Reader*, "Development of a half-Vivaldi antenna above a ground plane", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS93, Johannesburg, Aug 1993, pp. 9.1-9.8.
- D12. *C A Meijer and H C Reader*, "Mode pattern measurements on microstrip patch antennas", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS93, Johannesburg, Aug 1993, pp. 7.1-7.6.
- D13. *K Williams, H C Reader and G A Hoile*, "Design and modelling of power oscillator for VHF active patch antenna", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS94, Stellenbosch, Oct 1994, pp. 97-102. **(WON OVERALL PRIZE IN MICROWAVE THEORY SECTION)**.
- D14. *R Savo, H C Reader, S Lorentz and N Lecler*, "Calibration of soil water content using time domain reflectometry", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS94, Stellenbosch, Oct 1994, pp. 109-116.
- D15. *H C Reader and N R Naidoo*, "Arraying of half-Vivaldi antennas", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS94, Stellenbosch, Oct 1994, pp. 199-206.
- D16. *K Williams and H C Reader*, "Computer-aided modelling of an injection locked microwave oscillator", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS95, Pretoria, Nov 1995, pp. 58-63.
- D17. *T V Chow Ting Chan and H C Reader*, "Modelling and Measurement of Modes in a Microwave Oven", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS95, Pretoria, Nov 1995, pp. 149-156.
- D18. *H C Reader, T V Chow Ting Chan, J B de Swardt, S Bradshaw and E van Wyk*, "Microwave Dielectric Heating Research at the University of Stellenbosch", IEEE/SAIEE Symposium on Antennas and Propagation and Microwave Theory and Techniques, AP/MTTS95, Pretoria, Nov 1995, pp. 157-162.
- D19. *T E W Stuart and H C Reader*, "Apparently simple low frequency measurements : An EMC view", IEEE/SAIEE Symposium on Communications and Signal Processing, COMSIG'98, Cape Town, Sept 1998, paper AP-19.
- D20. *T V Chow Ting Chan and H C Reader*, "The effect of loads on typical multimode and single mode cavities", IEEE/SAIEE Symposium on Communications and Signal Processing, COMSIG'98, Cape Town, Sept 1998, paper AP-22.
- D21. *K Williams, H C Reader and D B Davidson*, "An overview of the modelling of an active microstrip patch array", IEEE/SAIEE Symposium on Communications and Signal Processing, COMSIG'98, Cape Town, Sept 1998, paper AP-33.

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- D23. *H C Reader and J H Cloete, "A perspective on EMC in South Africa", IEEE/SAIEE Symposium on Communications and Signal Processing, COMSIG'98, Cape Town, Sept 1998, plenary paper AP-38*
- D24. *R G Urban and H C Reader, "Metrology Issues in Isolating Inductive Coupling", MTT/EMC Section, SATCAM 2000, Lord Charles Hotel, Somerset West, Cape Town, South Africa, Sept 2000, 4 pages, CD-ROM ISBN: 0-620-26497-7.*
- D25. *R G Urban, H C Reader and J P Holtzhausen, "Modelling Corona on High Voltage Transmission Lines", SAUPEC 2001, Proc. 10th Southern African Univ. Power Eng. Conf, UCT, Cape Town, Jan 2001, pp. 81-82.*
- D26. *R G Urban, H C Reader and J P Holtzhausen, "Frequency Domain Measurement of Corona Noise in A Small Corona Cage", SAUPEC 2002, Proc. 11th Southern African Univ. Power Eng. Conf, Gauteng, Jan 2002, pp. 96-99.*
- D27. *R G Urban, H C Reader, J P Holtzhausen, A C Britten and K R Hubbard, "Calculation of Conductor Corona Noise in Power Line Carrier Systems on AC Transmission Lines", SAUPEC 2003, Proc. 12th Southern African Univ. Power Eng. Conf, Technikon Pretoria, Jan 2003, CD Rom ISBN 0-9584411-70, plenary paper TP1. Won Cigré prize for best presentation by a student.*
- D28. *R G Urban, H C Reader, J P Holtzhausen, K R Hubbard and A C Britten, "Preliminary Predictions on High Voltage AC Lines Using Cage Data", SAUPEC 2004, Proc. 13th Southern African Univ. Power Eng. Conf, Stellenbosch University, Jan 2004, CD Rom produced, paper 89.*
- D29. *R G Urban, H C Reader, J P Holtzhausen, K R Hubbard, A C Britten and D C Smith, "Conductor Corona Noise Prediction on High Voltage AC Lines", SAUPEC 2005, Proc. 14th Southern African Univ. Power Eng. Conf, University of the Witwatersrand, Johannesburg, Jan 2005, CD ROM*
- D30. *R G Urban, H C Reader, J P Holtzhausen, K R Hubbard and A C Britten, "Empirical Excitation Functions for Conductor Corona Noise Predictions", SAUPEC 2005, Proc. 14th Southern African Univ. Power Eng. Conf, University of the Witwatersrand, Johannesburg, Jan 2005, CD ROM.*
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- D32. *H C Reader, R H Geschke, J Badenhorst and E Laubscher, "Issues in Calibrating Sensors for EMI and Suppression of Unwanted Modes", SAUPEC 2007, Proc. 16th Southern African Univ. Power Eng. Conf, University of Cape Town, Cape Town, Jan 2007, CD ROM.*

- D33. *H C Reader, R H Geschke, A J Otto and J Badenhorst, "Transfer Impedance and EM Bandgap Structures in EMI Suppression", SAUPEC 2008, Proc. 17th Southern African Univ. Power Eng. Conf, Durban University of Technology, Durban, Jan 2008, CD ROM.*
- D34. *A J Otto, P J Pieterse and H C Reader, "An Electrometer to Measure Ion Space Charge", SAUPEC 2009, Proc. 18th Southern African Univ. Power Eng. Conf, Protea Hotel, Stellenbosch, Jan 2009, paper 21, CD ROM.*
- D35. *P G Wiid, H C Reader and R H Geschke, "Scale Modelling and Measurement of Karoo Array Telescope Structure: Lightning and Earthing", SAUPEC 2009, Proc. 18th Southern African Univ. Power Eng. Conf, Protea Hotel, Stellenbosch, Jan 2009, paper 22, CD ROM.*
- D36. *P Kibet-Langat, W de Villiers and H C Reader, "Characterisation of spark-gap radiated noise", SAUPEC 2009, Proc. 18th Southern African Univ. Power Eng. Conf, Protea Hotel, Stellenbosch, Jan 2009, paper 18, CD ROM.*
- D37. *P S van der Merwe and H C Reader, "Cable Trays and Associated Connections", SAUPEC 2009, Proc. 18th Southern African Univ. Power Eng. Conf, Protea Hotel, Stellenbosch, Jan 2009, paper 20, CD ROM. WON BEST PRESENTATION AWARD.*
- D38. *P Kibet-Langat and H C Reader, "Power line radiated sparking noise", SAUPEC 2010, Proc. 19th Southern African Univ. Power Eng. Conf, Wits University, Johannesburg, Jan 2010, CD ROM, pp. 222-225.*
- D39. *H C Reader, D J Rossouw and J Badenhorst, "Fields and Common-mode Currents in the Vicinity of Measurement Probes", SAUPEC 2010, Proc. 19th Southern African Univ. Power Eng. Conf, Wits University, Johannesburg, Jan 2010, CD ROM, pp. 218-221.*
- D40. *R Warrington, A J Otto, H C Reader and R R van Zyl, "HVDC Electrostatic Field Mill Development", SAUPEC 2010, Proc. 19th Southern African Univ. Power Eng. Conf, Wits University, Johannesburg, Jan 2010, CD ROM, pp. 230-235.*
- D41. *A J Otto and H C Reader Corona, "Computational Electromagnetic Modelling of Direct Current Corona Discharges", SAUPEC 2011, Proc. 20th Southern African Univ. Power Eng. Conf, UCT, Cape Town, 13-15 July 2011, CD ROM, paper 37.*
- D42. *P G Wiid, H C Reader, R H Geschke, "Lightning Interference: Computational Studies for Karoo Array Telescope", SAUPEC 2011, Proc. 20th Southern African Univ. Power Eng. Conf, UCT, Cape Town, 13-15 July 2011, CD ROM, paper 42.*
- D43. *J A Andriambeloson, P G Wiid, H C Reader, "Wideband Methodology for Coaxial Cable Transfer Impedance Measurement", SAUPEC 2011, Proc. 20th Southern African Univ. Power Eng. Conf, UCT, Cape Town, 13-15 July 2011, CD ROM, paper 43.*
- D44. *J A Andriambeloson, H C Reader, G C M Coetzer, "Small Enclosure Shielding Effectiveness Testing", SAUPEC 2013, Proc. 21st Southern African Univ. Power Eng. Conf, North-West University, Potchefstroom, ISBN 978-1-86822-631-3, 31 Jan-1 Feb 2013, pp. 33-36.*

- D45. *M. Groch, H C Reader, P. Pieterse, "Aerial Power Line Monitoring Studies for SKA", SAUPEC 2014, Proc. 22nd Southern African Univ. Power Eng. Conf, KwaZulu-Natal University, Durban, ISBN 978-1-86840-619-7, 30-31 Jan 2014, pp. 9-12.*

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- E1. *H C Reader and C A Meijer, "Insights into Microstrip Patch Antenna Behaviour: Experimental Observation of Modes", Microwave Engineering Europe, Morgan-Grampian (Technical Press), ISBN number 0960-667X, vol. 7, issue 5, June/July 1995, pp. 23-31.*
- E2. *D C Baker and H C Reader, "Perspectives from the 'Wilds' of Africa", IEEE Potentials (the magazine for up-and-coming engineers), vol. 14., No. 3, Aug/Sept 1995, pp. 42-46.*
- E3. *H C Reader, "Time and the eyes to see", IEEE Potentials, Dec 2000/January 2001, pp. 4-6.*
- E4. *A J Otto, P S van der Merwe, H C Reader, "A View on Electromagnetic Compatibility in South Africa: From Classroom Education to SKA", EngineeringIT, EEPublishers (South Africa), ISSN 1991-5047, May 2013, pp. 63-66.*
- E5. *H C Reader, "Reflections on HPE201-2013 High Power Electromagnetics (HPEM) Course", IEEE AP Magazine, Vol. 55, No. 3, June 2013, pp. 144-145.*

Other Papers

- F1. *H C Reader, "TV via Satellite - Technological and Social Trends", Natal University FORUM, April 1988.*
- F2. *H C Reader, "Satellite signal reception", Satellite Communication Workshop, organised by Natal Division of SAIEE, Durban, June 1988.*
- F3. *E J van Wyk, S M Bradshaw, H C Reader, J B de Swardt, "The Microwave Regeneration of Activated Carbon", 14th Annual Mineral Processing Symposium, South African Institute of Mining and Metallurgy, Somerset West, Aug, 1995. Abstract published in conference proceedings.*
- F4. *H C Reader, "Sensitivity to Electronic Pollution and the Environment", Centre for Research in Engineering Education (CREE) Newsletter, UCT, Oct, 1996.*
- F5. *H C Reader, "EMC legislation and testing", SAIEE Elektron, Aug 1998.*
- F6. *R G Urban, H C Reader and J P Holtzhausen, Working Group paper 22, TSI, Eskom Enterprises, SAHVEC Corona Researchers Working Group, inaugural meeting, Rosherville, Gauteng, April, 2001*
- F7. *H C Reader, "Practical EMC for the Laboratory", address given to Divisions 813 and 815 at NIST (National Institute of Standards and Technology), Boulder, Colorado, Oct, 2001.*

- F8. *H C Reader*, “Microwave Heating Fundamentals”, Microwave Heating in the Mineral and Process Industries Workshop, organised by SA Institute of Mining and Metallurgy and others, Heritage Centre, Rosherville, Gauteng, April 16, 2002.
- F9. *H C Reader*, “Recent RFI Mitigation and EMC Studies for MeerKAT”, South African SKA / MeerKAT Project, 2nd Annual Postgraduate Bursary Conference, SA Astronomical Observatory, Cape Town, Nov 2007, presentations available on SKA website: <http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops>
- F10. *R G Urban and H C Reader*, “Modelling and Measurement for Dish, Lightning and Earthing”, South African SKA / MeerKAT Project, 2nd Annual Postgraduate Bursary Conference, SA Astronomical Observatory, Cape Town, Nov 2007, presentations available on SKA website: <http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops>
- F11. *P G Wiid, H C Reader and R H Geschke*, “Method of Moments Modelling and Measurements in RFI Studies”, South African SKA / MeerKAT Project, 2nd Annual Postgraduate Bursary Conference, SA Astronomical Observatory, Cape Town, Nov 2007, presentations available on SKA website: <http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops>. **Won a best PhD presentation award.**
- F12. *P S van der Merwe and H C Reader*, “Modelling and Measurements of Cable Trays for RFI Mitigation”, South African SKA / MeerKAT Project, 2nd Annual Postgraduate Bursary Conference, SA Astronomical Observatory, Cape Town, Nov 2007, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>. **Won a best MSc presentation award.**
- F13. *P G Wiid, H C Reader and R H Geschke*, “RFI Characterisation of Karoo Array Telescope Structure”, South African SKA / MeerKAT Project, 3rd Annual Postgraduate Bursary Conference, Stellenbosch, Dec 2008, presentations available on SKA website <http://public.ska.ac.za/meetings-workshops>. **Won best overall engineering presentation award.**
- F14. *P S van der Merwe and H C Reader*, “Interface and cabling characterisation for SKA”, South African SKA / MeerKAT Project, 3rd Annual Postgraduate Bursary Conference, Stellenbosch, Dec 2008, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>. **Won best engineering PhD presentation award.**
- F15. *P Kibet-Langat and H C Reader*, “RFI Mitigation for Electronic and Natural SKA Environment”, South African SKA / MeerKAT Project, 3rd Annual Postgraduate Bursary Conference, Stellenbosch, Dec 2008, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>
- F16. *P S van der Merwe and H C Reader*, “Notes on EMC Investigation for EMBRACE”, extensive report prepared for ASTRON after Paul van der Merwe’s SA SKA Office and Marie Curie sponsored 5-week visit in Nov, 2009.
- F17. *H C Reader, R H Geschke, P G Wiid, P Kibet-Langat, A J Otto and P S van der Merwe*, “EMC and RFI Mitigation for Developing Large Systems: Experience from South Africa’s SKA

Demonstrator”, address given to EM Division of NIST (National Institute of Standards and Technology), Boulder, Colorado, Dec, 2009.

- F18. *H C Reader*, “EMC Metrological Issues Relevant to SKA Demonstrator (MeerKAT), address given to Cavendish Astrophysics Group, Cambridge, UK, June 30, 2010.
- F19. *H C Reader, A J Otto, P G Wiid, P S van der Merwe, P Kibet-Langat, R H Geschke, C van der Merwe and J A Andriambeloson*, “Recent Research Associated with KAT-7 RFI and EMC: Implications for SKA₁”, address given to Astron (Radio Astronomy Institute of the Netherlands), Dwingeloo, The Netherlands, 29 Sept, 2010.
- F20. *H C Reader, P G Wiid, P S van der Merwe, A J Otto, P Kibet-Langat, R H Geschke, C van der Merwe and J A Andriambeloson*, “Investigations Leading to KAT-7 EMC and RFI Mitigation Policies: Relevance for SKA₁”, address given to Cavendish SKA Group, Cambridge, UK, 4 Nov, 2010.
- F21. *H C Reader*, “SA’s Involvement With SKA Bid: Infrastructure and Electromagnetic Quietness”, address given to Cavendish Inference Group, Cambridge, UK, 8 Nov, 2010.
- F22. *P S van der Merwe and H C Reader*, “RF Current Audit for KAT-7 Telescope”, South African SKA / MeerKAT Project, 5th Annual Postgraduate Bursary Conference, Stellenbosch, Nov/Dec 2010, presentations available on SKA website:
<http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops>. **Won best engineering PhD presentation award.**
- F23. *P Kibet-Langat and H C Reader*, “Power-line Sparking Noise Characterization in the SKA Environment”, 5th Annual Postgraduate Bursary Conference, Stellenbosch, Nov/Dec 2010, presentations available on SKA website:
<http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops>
- F24. *J A Andriambeloson and H C Reader*, “Shielding Properties of RF Cables”, 5th Annual Postgraduate Bursary Conference, Stellenbosch, Nov/Dec 2010, presentations available on SKA website: <http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops> **Won best engineering Master’s poster award.**
- F25. *H C Reader, P G Wiid, P S van der Merwe, A J Otto, P Kibet-Langat, J A Andriambeloson and C van der Merwe*, “EMC and Metrology from Labs to Large Radio Astronomy Systems: Cost and Benefit Trade-offs”, address given to EM Division of NIST (National Institute of Standards and Technology), Boulder, Colorado, July, 2011.
- F26. *J A Andriambeloson and H C Reader*, “Wideband Coaxial Cable Transfer Impedance for Karoo Array Telescope”, 6th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2011, presentations available on SKA website:
<http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops> **Won best engineering Master’s oral paper award.**

- F27. *P S van der Merwe and H C Reader*, "Developmental Investigations for AAVP", 6th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2011, presentations available on SKA website: <http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops>
- F28. *P G Wiid and H C Reader*, "MeerKAT Earthing, Lightning and RFI", 6th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2011, presentations available on SKA website: <http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops>
- F29. *A J Otto and H C Reader*, "RFI Metrology for the MeerKAT System", 6th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2011, presentations available on SKA website: <http://www.ska.ac.za/http://public.ska.ac.za/meetings-workshops>
- F30. *A Andriambelason and H C Reader*, "Time Domain Studies in Reverberation Chambers", 7th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2012, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>. **Won best first year engineering PhD award.**
- F31. *P S van der Merwe and H C Reader*, "Characterisation of Proposed LPDA Feed for SKA-low", 7th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2012, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>
- F32. *A R Botha and H C Reader*, "Developing the ReAl Time Transient AnalYser 2 (RATTY2)", 7th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2012, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>
- F33. *A J Otto, P G Wiid, H C Reader and D B Davidson*, "Computational Electromagnetics for the SKA Project", South African CHPC National Meeting 2012, 3-7 December 2012, Durban International Convention Centre, Durban. 1 page abstracts only.
- F34. *H C Reader*, "Practicalities of Contemporary Radio Astronomy Infrastructure and System Deployment", address given to Cavendish SKA Group, Cambridge, UK, May, 2013.
- F35. *A Andriambelason and H C Reader*, "Time-Domain Nested-Enclosure Technique for Shielding Effectiveness Characterisation", 8th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2013, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>.
- F36. *H Pienaar and H C Reader*, "RFI Propagation Investigation using UAVs and Scale Modelling", 8th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2013, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>
- F37. *A R Botha and H C Reader*, "Real Time Transient Analyser: Version 2 Developments", 8th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2013, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>
- F39. *N Matthysen, H C Reader and P G Wiid*, "Impulse Generators for Broadband Metrology", 8th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2013, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>

- F40. *N S Tezel, H C Reader and D B Davidson*, "Investigation of the Shielding Effectiveness of a Soil Berm", 8th Annual Postgraduate Bursary Conference, Stellenbosch, Nov 2013, presentations available on SKA website: <http://public.ska.ac.za/meetings-workshops>

Contract Reports and Department Internal Technical Notes

- G1. *J R F Strode and H C Reader*, "An investigation into the RF performance of high frequency inter-connects on multi-chip modules", for Division of Microelectronics and Communication Technology, CSIR, Jan, 1992.
- G2. *H C Reader*, "Electromagnetic Susceptibility Study of ExEx System", for Expert Explosives, June 1995.
- G3. *H C Reader, P S van der Merwe and D J Rossouw*, "Cable Tray Connections for EMI Mitigation", Internal Tech Report ITN 03a-08 - for ESKOM's national standard NRS083
- G4. *P Kibet-Langat, P S van der Merwe and H C Reader*, "Bel-Stewart Cables, Balun and Connector Measurements", Internal Technical Note: ITN 08a-08
- G5. *P Kibet-Langat, P S van der Merwe and H C Reader*, "Siemon Cables, Balun and Connector Measurements", Internal Technical Note: ITN 08b-08.
- G6. *P S van der Merwe and H C Reader*, "EMI Investigation for EMBRACE", extensive report prepared for ASTRON (Dutch Radio Astronomy Centre) after Paul van der Merwe's SA SKA Office and Marie Curie sponsored 5-week visit in Nov-Dec 2009.
- G7. *P S van der Merwe and H C Reader*, "Notes on EMI Investigation for 2-PAD", report prepared for Jodrell Bank/Manchester University (UK Radio Astronomy Centre) after Paul van der Merwe's SA SKA Office and Marie Curie sponsored 1-week visit in Nov 2009.
- G8. *A J Otto, H C Reader, R. Warrington and R.R van Zyl*, "Development of an electrostatic field mill for high voltage direct current applications", RES/RR/09/31447, Eskom Sustainability and Innovation, Tech. Rep., 2010.

SKA Professional Contract Reports - only available with agreement from SKA (SA) Offices

- H1. *H C Reader and P G Wiid*, "KAT-7 Telescope and Infrastructure EMI and Lightning Protection Investigations during January 2010", Technical Report, MESA Solutions (Pty) Ltd., 15 February 2010.
- H2. *P S van der Merwe, P G Wiid and H C Reader*, "Appendix 1: Lightning Down Conductor Measurements", Technical Report, MESA Solutions (Pty) Ltd., 15 February 2010.
- H3. *P L Kibet, A J Otto and H C Reader*, "Appendix 2: Spark-gap Noise and Pulse Generator Measurements on the 22kV Grid Power Line at Karoo Support Base", Technical Report, MESA Solutions (Pty) Ltd., 15 February 2010.

- H4. *A J Otto and H C Reader*, "Radiation Measurements on Hardened and Non-Hardened KAT-7 Telescopes", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010.
- H5. *A J Otto and H C Reader*, "Initial Investigation into the Electromagnetic Shielding Properties of Karoo Soil Rev. 1", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010.
- H6. *P G Wiid, H C Reader and A J Otto*, "Report on ASC Enclosure Noise Levels and Shielding Rev. 1", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010.
- H7. *H C Reader and P G Wiid*, "Antenna Control Unit Shielding: Telescope 5, Rev. 1", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010
- H8. *H C Reader and P G Wiid*, "CMC Enclosure Shielding, Rev. 1", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010.
- H9. *H C Reader*, "KAT-7 Diesel Generator RFI Investigation Rev. 1", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010.
- H10. *H C Reader, P G Wiid and P. S. van der Merwe*, "Report on Losberg Shielding Properties Rev. 1", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010.
- H11. *H C Reader and P.G. Wiid*, "Preliminary Telescope 5 Hardening Evaluation Rev. 1", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010.
- H12. *H C Reader*, "Telescope 1 Investigation Rev.1", Technical Report, MESA Solutions (Pty) Ltd., 12 June 2010.
- H13. *H C Reader, A J Otto and P G Wiid*, "KAT-7 Complete Radio Interference Site Audit, Rev. 2, Technical Report", MESA Solutions (Pty) Ltd., 23 July 2010.
- H14. *P S van der Merwe and A J Otto*, "Preliminary Results: Measurements KAT-7 Site Shielding Effectiveness, Technical Report", MESA Solutions (Pty) Ltd., October 2010.
- H15. *H C Reader, P G Wiid and A J Otto*, "Electric Fence and Farm RFI Audit", Technical Report, SSA3100-0000V1-01, MESA Solutions (Pty) Ltd., 23 May 2011.
- H16. *H C Reader and A J Otto*, "Soil Attenuation and Signal Propagation in the Karoo, Technical Report", SSA3100-0000V1-02, MESA Solutions (Pty) Ltd., 23 May 2011.
- H17. *A J Otto and H C Reader*, "Investigation into the Impact of Broadband Telecommunication Systems - 2.4 GHz and 5.8 GHz Wireless Technology", Technical Report, SKA/07/13, MESA Solutions (Pty) Ltd., 23 July 2012.
- H18. *A J Otto and H C Reader*, "Telkom SpaceStream Home - RFI Characterisation of Possible Communication Solutions for Farmers," Technical Report, SKA/10/28, MESA Solutions (Pty) Ltd., 28 October 2012.

- H19. *P S van der Merwe, A J Otto and H C Reader, "Vodacom Communication and Data Satellite EMI Measurements Visserskloof", Technical Report, SKA/04/12, Rev. 2, MESA Solutions(Pty) Ltd., 25 April 2012.*
- H20. *P S van der Merwe, A J Otto and H C Reader, "Procedure for the Calibration of a Reverberation Chamber", Technical Report, SKA/13/09/09, Rev. 0, MESA Solutions(Pty) Ltd., 9 September 2013.*

Short Course and Tutorial Publications

(these are substantial short course notes covering lectures and practicals over a 1-3 day period)

- J1. *H C Reader, J H Cloete, D B Davidson, J H R Enslin and J P Holtzhausen, "Electromagnetic Compatibility (EMC) Essentials for Industry: Pt. I Notes & Pt. II Practicals", Department of Electrical and Electronic Engineering, University of Stellenbosch, June 1996.*
- J2. *P C T van der Laan, H C Reader, J H Cloete, and J H R Enslin, "Electromagnetic Compatibility (EMC) for Industry, Department of Electrical and Electronic Engineering, University of Stellenbosch, July 1997.*
- J3. *J B de Swardt, S M Bradshaw, H C Reader and T V Chow Ting Chan, "Microwave Dielectric Heating", Departments of Electrical and Electronic Engineering and Chemical Engineering, University of Stellenbosch, April 1998.*
- J4. *H C Reader, J H Cloete, J H R Enslin and P C T van der Laan, "Electromagnetic Compatibility (EMC) for Industry, Department of Electrical and Electronic Engineering, University of Stellenbosch, Sept 1998.*
- J5. *H C Reader, R G Urban and W de Villiers, "Practical EMC for Laboratories and Industry", Department of Electrical and Electronic Engineering, in collaboration with Mesa Solutions (Pty) Ltd., University of Stellenbosch, April 2003 and on average once per year to the present.*
- J6. *R G Urban, H C Reader, J P Holtzhausen, Hosted ESKOM Corona Working Group: Stellenbosch HV and Corona Lab Visit, 2 April, 2003.*
- J7. *H C Reader and E Burger, "EMC Metrology and Computation", Asia Pacific EMC, APEMC 2013, Melbourne, 20 – 23 May, 2013, Tutorial 1.*

Inaugural Lecture

H C Reader, "Time and the Eyes to See", Inaugural Lecturer delivered to an invited audience, University of Stellenbosch, June 1996.

The lecture begins with reflections on the way we perceive things and considers, for example, human vision, sight through forms of radar, holography, spectroscopy, etc. This is then applied to engineering systems and views of problems are elucidated through frequency and time domain perspectives. The concept of time is used in a general way, looking at real time, sampled time, time past, present and future. This is related to specific research into time domain reflectometry. Perceptions on how we tackle given problems are coupled to present

investigations into microwave heating and electronic pollution. Concluding remarks place this all in the context of engineering education.