

ISAMS Publications, 17th April 2000

Papers

Allen, D. R., J. L. Stanford, M. A. López-Valverde, N. Nakamura, D. J. Lary, A. R. Douglass, M. C. Cerniglia, J. J. Remedios and F. W. Taylor, Observations of middle atmosphere CO from the UARS ISAMS during the early northern winter 1991/92, *J. Atmos. Sci.*, **56**, pp563-583, 1999.

Allen, D. R., J. L. Stanford, N. Nakamura *et al.*, Antarctic polar descent and planetary wave activity observed in ISAMS CO from April to July 1992 *Geophys. Res. Lett.*, **27** p 665-668, 2000

Ballard, J., B. J. Kerridge, P. E. Morris, and F. W. Taylor, Observations of $v=1-0$ Emission From Thermospheric Nitric Oxide by ISAMS, *Geophys. Res. Lett.*, **20**, 1311-1314, 1993.

Ballard, J., B. J. Kerridge, and F. W. Taylor, Preliminary Results from the ISAMS NO Channel: Thermospheric Radiances, *Proceedings of the Quadrennial International Ozone Symposium 1992*, NASA Conference Publication 3266, 459-463, 1994.

Ballard J., C. W. P. Palmer, P. E. Morris, J. Nightingale, J. Firth, R. J. Knight, P. Venters, R. J. Wells and J. G. Whitney. Calibration of the Improved Stratospheric and Mesospheric Sounder I: Introduction, Spectral and Radiometric Calibration. *J. Atmos. and Ocean. Tech.*, **4**, pp 810-831,. 1996

Barnett, J. J., Morris, P. E., Nightingale, T. J., Palmer, C. W. P., Peskett, G. D., Rodgers, C. D., Taylor, F. W., Venters, P., Wells, R. J., Whitney, J. G., Ballard, J., Knight, R. J., The Improved Stratospheric and Mesospheric Sounder on the Upper Atmosphere Research Satellite, *SPIE Vol 1715 Optical Methods in Atmospheric Chemistry*, p.527, 1992.

Bekki, S., M. P. Chipperfield, J. A. Pyle, J. J. Remedios, S. E. Smith, R. G. Grainger, A. Lambert, J. B. Kumer, J. L. Mergenthaler, Coupled aerosols-chemical modelling of UARS HNO₃ and N₂O₅ measurements in the Arctic upper stratosphere, *J. Geophys. Res.*, **102**, p8977-8984, 1997.

Bradshaw T.W., Delderfield J., Werrett S.T., Davey G., Performance of the Oxford miniature Stirling cycle refrigerator, *Advances in Cryogenic Engineering*, **31**, pp.801-809, Plenum, New York, 1986.

Callis, L. B. and J. D. Lambeth, NO_y formed by precipitating electron events in 1991 and 1992: Descent into the stratosphere as observed by ISAMS, *Geophys. Res. Lett.*, **25**, pp.1875-1878, 1998.

Connor, B. J. and C. D. Rodgers, A Comparison of Retrieval Methods: Optimal Estimation, Onion Peeling, and a Combination of the Two, *Advances in Remote Sensing Retrieval Methods 1988*, p 271-281, Ed A. Deepak. A. Deepak Publishing, 1988.

Connor, B. J., C. Scheuer, A. Chu, J. J. Remedios, C. Marks, C. D. Rodgers and F. W. Taylor., Validation of ISAMS Measurements of Ozone, *Proceedings of the Quadrennial International Ozone Symposium 1992*, NASA Conference Publication 3266, 452-454, 1994.

Connor B. J., C. J. Scheuer, J. J. Remedios, C. J. Marks, A. D. Chu, C. D. Rodgers, F. W. Taylor, J. M. Russell III, and R. R. Ghent, 'Validation of ISAMS Measurements of O₃ and HNO₃', 29th Plenary Meeting of the Committee on Space Research (COSPAR), World Space Congress, Washington D. C., September 1992.

Connor, B. J., C. J. Scheuer, D. A. Chu, J. J. Remedios, R. G. Grainger, C. D. Rodgers and F. W. Taylor, Ozone in the Middle Atmosphere as Measured by the Improved Stratospheric and Mesospheric Sounder, *J. Geophys. Res.*, **101**, 9831-9842, 1996.

Dudhia, A., S. E. Smith, A. R. Wood, and F. W. Taylor, Diurnal and Semi-Diurnal Temperature

Variability of the Middle Atmosphere as Observed by ISAMS, *Geophys. Res. Lett.*, **20**, 1251-1254, 1993.

Dudhia, A., N. J. Livesey and F. W. Taylor, Validation of ISAMS Retrievals of Atmospheric Temperature and Pressure, *Adv. in Space Res.*, **14**, (9)237-(9)241, 1994.

Dudhia, A. and N. J. Livesey, Validation of Temperature Measurements from the Improved Stratospheric And Mesospheric Sounder, *J. Geophys. Res.*, **101**, 9795-9810, 1996.

Edwards, D. P., M. López-Puertas, and M. A. López-Valverde, Non-local Thermodynamic Equilibrium Studies of the 15- μm Bands of CO₂ for Atmospheric Remote Sensing, *J. Geophys. Res.*, **98**, 14955-14977, 1993.

Eluszkiewicz, J., D. Crisp, R. Zurek, L. Elson, E. Fishbein, L. Froidevaux, J. Waters, R. G. Grainger, A. Lambert, R. Harwood, and G. Peckham, Residual circulation in the stratosphere and lower mesosphere as diagnosed from Microwave Limb Sounder data, *J. Atmos. Sci.*, **53**, 217-240, 1996.

Gille, J., P. Bailey, S. Massie, A. Roche, J. Kumer, and L. Lyjak, Comparison of the CIRA HNO₃ model with UARS observations, *Adv. in Space Res.*, **18**, No. 9/10, p337-343, 1996

Goss-Custard, M., J. J. Remedios, A. Lambert, F. W. Taylor, C. D. Rodgers, M. López-Puertas, G. Zaragoza, M. R. Gunson, M. R. Suttie, J. E. Harries and J. M. Russell III, Measurements of Water Vapour Distributions from the Improved Stratospheric And Mesospheric Sounder: Retrieval and Validation, *J. Geophys. Res.*, **101**, 9907-9928, 1996

Grainger R. G., A. Lambert, F. W. Taylor, J. J. Remedios, C. D. Rodgers, M. Corney, and B. J. Kerridge, Infrared Absorption by Volcanic Stratospheric Aerosols Observed by ISAMS, *Geophys. Res. Lett.*, **20**, 1283-1286, 1993.

Grainger R. G., A. Lambert, C. D. Rodgers, F. W. Taylor and T. Deshler, Stratospheric aerosol effective radius, surface area and volume estimated from infrared measurements, *J. Geophys. Res.*, **100**, p16,507-16,518, 1995.

Grainger, R. G., A. Lambert, C. D. Rodgers and F. W. Taylor, Properties of the Mt. Pinatubo aerosol cloud determined from ISAMS measurements at 12.1 μm , in *The Effects of the Mt. Pinatubo Eruption on the Atmosphere and Climate*, Ed. G. Fiocco, D. Fua' and G. Visconti, NATO ASI Subseries 'Global Environmental Change', Springer-Verlag, Berlin, 1995.

Grant, W. B., E. V. Browell, C. S. Long, L. L. Stowe, R. G. Grainger, and A. Lambert, Use of aerosols resulting from volcanic eruptions to study the tropical stratospheric reservoir, its boundary, and transport to northern latitudes, *J. Geophys. Res.*, **101**, 3973-3988, 1996.

Gray, P. F. Design and performance of the optical system for ISAMS. *SPIE: Vol 589 Instrumentation for Optical Remote Sensing from Space*, p 89-95, (Seeley, J. S, Lear, J. W., Monfils, A., and Russak, S. L., eds). SPIE, Bellingham, Wash., USA, 1985

Jones, B. G. and S. R. Scull, Development and preflight qualification testing of a range of cryogenic coolers for applications from 20 K to 80 K, *Cryogenics*, **32**, No.10, pp.850-858, 1992

Kawa, S. R., J. B. Kumer, A. R. Douglass, A. E. Roche, S. E. Smith, F. W. Taylor and D. J. Allen, Missing chemistry of reactive nitrogen in the upper stratosphere polar winter, *Geophys. Res. Lett.*, **22**, 2629-2632, 1995.

Keckhut, P., M. E. Gelman, J. D. Wild, F. Tissot, A. J. Miller, A. Hauchecorne, M.-L. Chanin, E. F. Fishbein, J. M. Russell III, and F. W. Taylor, Semi-diurnal and diurnal temperature tides (30-35 km): Climatology and effect on UARS-lidar data comparisons, *J. Geophys. Res.*, **101**, 10,299-10,310, 1996.

Kerridge B. J., J. Ballard, R. J. Knight, A. D. Stevens, J. Reburn, P. Morris, J. J. Remedios, and F. W. Taylor, 'Measurements of Stratospheric NO, NO₂, N₂O₅ by ISAMS: Preliminary Observations and Data Validation', *Proceedings of the Quadrennial International Ozone Symposium 1992*, NASA Conference Publication 3266, 439-443, 1994.

Kerridge B. J., J. Ballard, R. J. Knight, A. D. Stevens, J. Reburn, P. Morris, J. J. Remedios, and F. W. Taylor, 'Measurements of Stratospheric NO, NO₂, N₂O₅ by ISAMS: Preliminary Observations and Data Validation', 29th Plenary Meeting of the Committee on Space Research (COSPAR), World Space Congress, Washington D. C., September

Knight, J. R., J. Austin, R. G. Grainger, A. Lambert, A three-dimensional model simulation of the impact of Mt. Pinatubo aerosol on the Antarctic ozone hole, *Quart. J. Roy. Meteorol. Soc.*, **124**, pp.1527-1558, 1998.

Koutoulaki, K., C. D. Rodgers, F. W. Taylor and B. J. Kerridge, Non-LTE effects in the ISAMS ozone data, *Atmospheric Ozone*, Proceedings of the XVIII Quadrennial Ozone Symposium, Vol 2, p 919-922, 1996

Kumer, J. B., Mergenthaler, J. L., Roche, A. E., Nightingale, R. W., Zele, F., Gille, J. C., Massie, S. T., Bailey, P. L., Connell, P. S., Gunson, M. R., Abrams, M. C., Toon, G. C., Sen, B., Blavier, J.-F., Smith, S. E. and Taylor, F. W., Comparison of CLAES preliminary N₂O₅ data with correlative data and a model *J. Geophys. Res.*, **101**, 9657-9678, 1996

Kumer, J. B., S. R. Kawa, A. E. Roche, J. L. Mergenthaler, S. E. Smith, F. W. Taylor, P. S. Connell, and A. R. Douglass, UARS first global N₂O₅ data sets: Application to a Stratospheric Warming Event in January 1992, *J. Geophys. Res.*, **102**, pp.3575-3582, 1996.

Lambert A., J. J. Remedios, A. Dudhia, M. Corney, B. J. Kerridge, C. D. Rodgers, and F. W. Taylor, ISAMS Observations of Stratospheric Aerosol, *Proceedings of the Quadrennial International Ozone Symposium 1992*, NASA Conference Publication 3266, p456-458, 1994.

Lambert A., J. J. Remedios, A. Dudhia, M. Corney, B. J. Kerridge, C. D. Rodgers, and F. W. Taylor, 'ISAMS Observations of Stratospheric Aerosol', 29th Plenary Meeting of the Committee on Space Research (COSPAR), World Space Congress, Washington D. C., September 1992.

Lambert A., R. G. Grainger, J. J. Remedios, C. D. Rodgers, M. Corney, and F. W. Taylor, Measurements of the Evolution of the Mt. Pinatubo Aerosol Cloud by ISAMS, *Geophys. Res. Lett.*, **20**, 1287-1290, 1993.

Lambert, A., R. G. Grainger, J. J. Remedios, W. J. Reburn, C. D. Rodgers, F. W. Taylor, J. L. Mergenthaler, J. B. Kumer, S. T. Massie and T. Deshler, Validation of Aerosol Measurements by the Improved Stratospheric And Mesospheric Sounder, *J. Geophys. Res.*, **101**, 9811-9830, 1996.

Lambert, A., R. G. Grainger, H. L. Rogers, W. A. Norton, C. D. Rodgers and F. W. Taylor, The H₂SO₄ component of stratospheric aerosols as a tracer derived from satellite infrared extinction measurements, *Geophys. Res. Lett.*, **23**, pp. 2219-2222, 1996

Lambert, A., R. G. Grainger, C. D. Rodgers, F. W. Taylor, J. L. Mergenthaler, J. B. Kumer and S. T. Massie, Global evolution of the Mount Pinatubo volcanic aerosols observed by the infrared limb-sounding instruments CLAES and ISAMS on UARS, *J. Geophys. Res.*, **102**, 1495-1512, 1997.

Leblanc, T., A. Hauchecorne, M-L. Chanin, C. D. Rodgers, F. W. Taylor and N. J. Livesey, Mesospheric Temperature Inversions As Seen by ISAMS in December 1991, *Geophys. Res. Lett.*, **22**, 1485-1488, 1995

Leblanc, T. and A. Hauchecorne, Recent observations of mesospheric temperature inversions, *J. Geophys. Res.*, **102**, pp. 19,471-19,482, 1997.

López-Valverde, M. A., M. López-Puertas and C. J. Marks, Non-LTE modelling for the retrieval of CO

abundances from ISAMS measurements, *Opt. Remote Sens. of the Atmos.*, **5**, 31-33, 1991.

López-Valverde, M. A., M. López-Puertas, C. J. Marks, and F. W. Taylor, Global and seasonal variations in middle atmosphere CO from UARS/ISAMS, *Geophys. Res. Lett.*, **20**, 1247-1250, 1993.

López-Puertas, M., M. A. López-Valverde, D. P. Edwards, and F. W. Taylor, Non-Local-Thermodynamic-Equilibrium Populations of the First Vibrational Excited State of CO in the Middle Atmosphere, *J. Geophys. Res.*, **98**, pp8933-8947, 1993.

López-Valverde M. A., M. López-Puertas, C. J. Marks, F. W. Taylor, B. J. Kerridge, J. J. Remedios, A. Dudhia, and C. D. Rodgers, Stratospheric and Mesospheric carbon Monoxide: First Results from the Validation of the ISAMS Measurements at 4.6 μm , *Advances in Space Research*, **14**, 233-236, 1994.

López-Puertas, M., G. Zaragoza, B. J. Kerridge, F. W. Taylor, Non-local Thermodynamic Equilibrium Model for H₂O 6.3 and 2.7 μm bands in the middle atmosphere, *J. Geophys. Res.*, **100**, pp. 9131-9147, 1995.

López-Valverde, M. A., M. López-Puertas, J. J. Remedios, C. D. Rodgers, F. W. Taylor, E. C. Zipf and P. W. Erdman, Validation of Measurements of Carbon Monoxide from the Improved Stratospheric And Mesospheric Sounder, *J. Geophys. Res.*, **101**, 9929-9956, 1996.

López-Puertas, M., A. Dudhia, M.G. Shepherd, and D.P. Edwards, Evidence of Non-LTE in the CO₂ 15 μm Weak Bands from ISAMS and WINDII Observations, *Geophys. Res. Lett.*, **24**, 361-364, 1997.

López-Puertas, M., Zaragoza, G., Taylor, F.W. Non local thermodynamic equilibrium (LTE) atmospheric limb emission at 4.6 micrometers, 2, An analysis of the daytime wideband radiances as measured by UARS improved stratospheric and mesospheric sounder, *J. Geophys. Res.*, **103**, p 8515-8530, 1998.

López-Valverde, M. A., M. López-Puertas, F. W. Taylor and M. R. Gunson, Correlation between ISAMS and ATMOS measurements of CO in the middle atmosphere, *Adv. in Space Res.*, **22**, No 11, pp.1517-1520, 1999. Submitted to *Adv. in Space Res.*.

Massie, S. T., Indices of refraction for the HITRAN compilation, *J. Quant. Spectrosc. Radiat. Transfer*, **52**, pp.501-513, 1994.

Massie, S. T., J. C. Gille, D. P. Edwards, P. L. Bailey, L. V. Lyjak, C. A. Craig, C. P. Cavanaugh, J. L. Mergenthaler, A. E. Roche, J. B. Kumer, A. Lambert, R. G. Grainger, C. D. Rodgers, F. W. Taylor, J. M. Russell III, J. H. Park, T. Deshler, M. E. Hervig, E. F. Fishbein, J. W. Waters and W. A. Lahoz, Validation studies using multi-wavelength Cryogenic Limb Array Etalon Spectrometer (CLAES) observations of stratospheric aerosol, *J. Geophys. Res.*, **101**, 9757-9774, 1996.

Massie S. T., J. Dye, D. Baumgardner, W. Randel, F. Wu, X. Tie, L. Pan, F. Figarol, G. Brasseur, M. Santee, W. Read, R. G. Grainger, A. Lambert, J. L. Mergenthaler and A. Tabazadeh, Simultaneous observations of polar stratospheric clouds and HNO₃ over Scandinavia in January, 1992, *Geophys. Res. Lett.*, **24**, 595-598, 1997.

Marks, C. J. and C. D. Rodgers, A Retrieval Method for Atmospheric Composition from Limb Emission Measurements, *J. Geophys. Res.*, **98**, p14,939-14,953, 1993.

Nightingale, T. J. and J. Crawford, A Radiometric Calibration System for the ISAMS Remote Sounding Instrument, *Metrologia*, **28**, p 233, 1991.

Palmer, C. W. P., P Venters, R. J. Knight, J. Ballard, T. J. Nightingale and P. E. Morris, Calibration of the Improved Stratospheric and Mesospheric Sounder II: Optical Alignment, Spatial and Pressure Modulator Calibrations. *J. Atmos Ocean. Tech.*, **14**, pp.32-44, 1997.

Peskett, G. D. Mesospheric Sounder (ISAMS) on the Upper Atmosphere Research Satellite (UARS). *SPIE: Vol 589 Instrumentation for Optical Remote Sensing from Space*, p 81-88, (Seeley, J. S, Lear, J. W., Monfils, A., and Russak, S. L., eds), SPIE, Bellingham, Wash., USA, 1985.

Rodgers, C. D., F. W. Taylor, J. Ballard, J. J. Barnett, A. Chu, B. J. Connor, M. Corney, A. Dudhia, B. J. Kerridge, R. J. Knight, M. López-Valverde, C. J. Marks, P. Morris, T. Nightingale, J. Remedios, D. Roisin, C. Scheuer and R. Wells, Measurements of Stratospheric Constituents by ISAMS, *Proceedings of the Quadrennial International Ozone Symposium 1992*, NASA Conference Publication 3266, p444-447, 1994.

Reburn W. J., J. J. Remedios, J. Ballard, B. N. Lawrence, and F. W. Taylor, 'Measurements of Stratospheric NO₂ by the Improved Stratospheric and Mesospheric Sounder', *Geophys. Res. Lett.*, **20**, 1231-1234, 1993.

Reburn, W. J., J. J. Remedios, P. E. Morris, C. D. Rodgers, F. W. Taylor, B. J. Kerridge, R. J. Knight, J. Ballard, J. B. Kumer and S. T. Massie, Validation of Nitrogen Dioxide Measurements from the Improved Stratospheric And Mesospheric Sounder, *J. Geophys. Res.*, **101**, 9873-9896, 1996

Remedios J. J., M. Goss-Custard, S. L. Ruth, C. D. Rodgers, and F. W. Taylor, 'Measurements of Water Vapour, Methane and Nitrous Oxide by the Improved Stratospheric and Mesospheric Sounder', 29th Plenary Meeting of the Committee on Space Research (COSPAR), World Space Congress, Washington D. C., September 1992.

Remedios, J. J., S. L. Ruth, C. D. Rodgers, F. W. Taylor, A. E. Roche, J. C. Gille, M. R. Gunson, J. M. Russell, J. Park, E. C. Zipf, and P. W. Erdmann, Measurements of Methane and Nitrous Oxide Distributions by the Improved Stratospheric and Mesospheric Sounder: Retrieval and Validation, *J. Geophys. Res.*, **101**, 9843-9872, 1996.

Remedios J. J., S. L. Ruth, F. W. Taylor, A. E. Roche, and J. B. Kumer, Stratospheric Nitrous Oxide Distributions: Comparisons of a CIRA Reference Model and New Observational Data, *Adv. in Space Res.*, **18**, 327-335, 1996.

Remedios, J. J., A. E. Roche, J. M. Russell, A strategy for the development of climatologies for tracer species: Proposed new reference models for methane and nitrous oxide, *Adv. in Space Res.*, **21**, No. 10, pp.1425-1434, 1998.

Rodgers, C. D., R. J. Wells, R. G. Grainger and F. W. Taylor, Improved Stratospheric And Mesospheric Sounder Validation: General Approach and In-flight Radiometric Calibration, *J. Geophys. Res.*, **101**, 9775-9794, 1996

Rogers, H. L., W. A. Norton, A. Lambert, and R. G. Grainger, Transport of Mt. Pinatubo aerosol by tropospheric synoptic-scale and stratospheric planetary-scale waves, *Quart. J. Roy. Meteorol. Soc.*, **124**, pp 193-209, 1998.

Rogers, H. L., W. A. Norton, A. Lambert, and R. G. Grainger, Isentropic, diabatic, and sedimentary transport of Mount Pinatubo aerosol, *J. Geophys. Res.*, **104**, pp.4051-4063, 1999.

Rosier, S. M., B. N. Lawrence, D. G. Andrews and F. W. Taylor, Dynamical Evolution of the Northern Stratosphere in Early Winter 1991/92, as Observed by the Improved Stratospheric and Mesospheric Sounder, *J. Atmos. Sci.*, **51**, 2783-2799, 1994

Ruth, S. L., J. J. Remedios, B. N. Lawrence and F. W. Taylor, Measurements of N₂O by the UARS Improved Stratospheric and Mesospheric Sounder during Early Northern Winter 1991/2, *J. Atmos. Sci.*, **51**, 2818-2833, 1994.

Ruth S. L., J. J. Remedios, F. W. Taylor, A. E. Roche, and J. B. Kumer, Stratospheric Methane

Distributions: Comparisons of a CIRA Reference Model and Recent Observational Data, *Adv. in Space Res.*, **18**, 319-326, 1996.

Shepherd, M.G., A. Dudhia, M. López-Puertas, and W.F.J. Evans, Upper mesosphere temperatures in summertime: WINDII observations, *Geophys. Res. Lett.*, **24**, 357–360, 1997.

Smith, S. E., A. Dudhia, P. E. Morris, J. J. Remedios, C. D. Rodgers, F. W. Taylor, B. J. Kerridge, M. P. Chipperfield, J. B. Kumer and M. R. Gunson, Dinitrogen Pentoxide Measurements from the Improved Stratospheric And Mesospheric Sounder: Validation of Preliminary Results, *J. Geophys. Res.*, **101**, 9897-9906, 1996.

Stone, E. M., J. L. Stanford, J. R. Ziemke, D. R. Allen, F. W. Taylor, C. D. Rodgers, B. N. Lawrence, E. F. Fishbein, L. S. Elson, J. W. Waters, Space-Time Integrity of Improved Stratospheric and Mesospheric Sounder and Microwave Limb Sounder Temperature Fields at Kelvin Wave Scales, *J. Geophys. Res.*, **100**, 14,089-14,096, 1995

Sutton, R., H. Maclean, R. Swinbank, A. O'Neill, F. W. Taylor, High resolution stratospheric tracer fields estimated from satellite observations using Lagrangian trajectory calculations, *J. Atmos. Sci.*, **51**, 2995-3005, 1994.

Taylor, F. W., Scaddan, R. J. and Callard, L. Improved Stratospheric and Mesospheric Sounder. *Optical Engineering*, **810**, 81-90, 1988.

Taylor, F. W., C. D. Rodgers, J. G. Whitney, S. T. Werrett, J. J. Barnett, G. D. Peskett, P. Venters, J. Ballard, C. W. P. Palmer, R. J. Knight, P. Morris, T. Nightingale, A. Dudhia, Remote Sensing of Atmospheric Structure and Composition by Pressure Modulator Radiometry from Space: The ISAMS Experiment on UARS, *J. Geophys. Res.*, **98**, 10,799-10814, 1993

Taylor F. W., J. Ballard, A. Dudhia, M. Goss-Custard, B. J. Kerridge, A. Lambert, M. López-Valverde, C. D. Rodgers and J. J. Remedios, Stratospheric and Mesospheric observations with ISAMS, *Adv. in Space Res.*, **14**, (9)41-(9)52, 1994.

Taylor F. W., A. Lambert, R. G. Grainger, C. D. Rodgers and J. J. Remedios, Properties of Northern Hemisphere Polar Stratospheric Clouds and Volcanic Aerosol in 1991/2 from UARS/ISAMS Satellite Measurements, *J. Atmos. Sci.*, **51**, 3019-3026, 1994.

Taylor, F. W., C. D. Rodgers, J. J. Remedios, R. G. Grainger, A. Lambert, M. López-Valverde, M. Goss-Custard and J. Reburn; Global atmospheric chemistry from satellites: results from UARS/ISAMS, *Faraday Discussions*, **100**, pp. 353-369, 1995.

Venters, P., *The Pressure Modulation System in the Improved Stratospheric and Mesospheric Sounder*, D. Phil. Thesis, Dept. Atmospheric, Oceanic and Planetary Physics, Oxford University, 249pp, 1991.

Wells, R. J., Data processing for the Improved Stratospheric and Mesospheric Sounder, *University Computing*, **13**, No.3, pp.112-116, 1991

Werrett, S. T., and Peskett, G. D., Pressure modulators, closed cycle coolers, and the detector cooling system in ISAMS. *SPIE: Vol 589 Instrumentation for Optical Remote Sensing from Space*, 96-103, (Seeley, J. S, Lear, J. W., Monfils, A., and Russak, S. L., eds), SPIE, Bellingham, Wash., USA, 1985

Werrett S. T., Peskett G. D., Davey G., Bradshaw T. W., Delderfield J., Development of a small Stirling cycle cooler for spaceflight applications, *Advances in Cryogenic Engineering*, /bf 31, pp.791-799, Plenum, New York, 1986.

Werrett S.T., Peskett G.D., Development of the Stirling cycle coolers for the Improved Stratospheric And Mesospheric Sounder, *Proceedings of the Fourth International Cryocooler Conference* pp.289-301, U.S.

Navy, Bethesda, 1988.

Werrett S., Seivold A.L., Thermal design and verification of an instrument cooling system for infrared detectors utilizing the Oxford Stirling cycle refrigerator, *SPIE: Vol 1308 Infra red detectors and focal plane arrays*, pp.293-302, 1990

Zaragoza, G., M. López-Puertas, M. A. López-Valverde and F. W. Taylor, The detection of the hydroxyl nightglow layer in the mesosphere by ISAMS/UARS, *Geophys. Res. Lett.*, **25**, pp.2417-2420, 1998

Zaragoza, G., M. López-Puertas, A. Lambert, J.J. Remedios, and F.W. Taylor, Non-local thermodynamic equilibrium in H₂O 6.9 μ m emission as measured by the Improved Stratospheric And Mesospheric Sounder, *J. Geophys. Res.*, **103**, pp.31,293-31,308, 1998.

Zaragoza, G., M. López-Puertas, A. Lambert, J.J. Remedios, and F.W. Taylor, Evidences of non-LTE emission in the ISAMS water vapour channels, *Adv. in Space Res.*, **22**, No.11, pp.1513-1516, 1999

Theses

Atwell, J., D. Phil. thesis, *Heterogeneous chemical processing by atmospheric aerosol*, University of Oxford, 1998

Goss-Custard, M., *Measurements of atmospheric water vapour by ISAMS*, D. Phil. thesis, University of Oxford, 1994.

Koutoulaki, A. Study of ozone non-thermal IR emission using ISAMS observations, D. Phil. thesis, University of Oxford, 1998.

Livesey, N., *Small scale features in atmospheric temperature fields measured by ISAMS*, D. Phil. thesis, University of Oxford, 1994.

Morris, P. E., *The Remote Sensing of the Earth from Space*, 249pp., D. Phil Thesis, Dept. Atmospheric, Oceanic and Planetary Physics, Oxford University, 1992.

Nightingale, T. J., *Investigation of the Radiometric Performance of the Improved Stratospheric and Mesospheric Sounder*, 238pp, D. Phil Thesis, Oxford University, 1992.

Reburn, W. J., *Measurements of atmospheric nitrogen dioxide by ISAMS*, D. Phil. thesis, University of Oxford, 1994.

Rogers, H., D. Phil. thesis, *Model interpretaion of the transport of Mt Pinatubo aerosol observed by the Improved Stratospheric and Mesospheric Sounder*, University of Oxford, 1996

Rosier, S., D. Phil. thesis, *Evolution of the Northern stratosphere in early winter 1991/92* University of Oxford, 1996

Smith, S. E., D. Phil. thesis, *Satellite measurements of dinitrogen pentoxide in the stratosphere* University of Oxford, 1996

Werrett, S. T. R., *Aspects of the Design of a Satellite Borne Infra-red Radiometer*, D. Phil. Thesis, Dept. Atmospheric, Oceanic and Planetary Physics, Oxford University, 235 pp, 1991.

Accepted

Submitted

Grainger, R. G., A. Lambert, C. D. Rodgers and F. W. Taylor, A reference stratospheric aerosol loading,

Motivation and Methods, submitted to *Adv. in Space Res.*, 1996.

Stenchikov, G. L., I. Kirchner, A. Robock, H.-F. Graf, J. C. Antuna, R. G. Grainger, A. Lambert and L. Thomason, Radiative forcing from the 1991 Mount Pinatubo volcanic eruption, submitted to *J. Geophys. Res.*, 1997.

In preparation

Abstracts only, Posters, etc

Ghosh S., J. A. Pyle, and J. J. Remedios, 3-D Modelling of HNO₃ Chemistry During the Winter of 1991/92 and Comparison with ISAMS Observations, Proc. XVIII Gen. Ass. Eur. Geophys. Soc., supplement, *Annales Geophysicae*, **11**, 1993.

Goss-Custard, M., J. J. Remedios, and F. W. Taylor, 'ISAMS Measurements of Water Vapour', *Annales Geophysicae*, **11**, *Suppl. III* p C425. Proc. XVIII Gen. Ass. Eur. Geophys. Soc., abstract volume, 1993.

Grainger R. G., A. Lambert, J. J. Remedios, C. D. Rodgers, and F. W. Taylor, 'Composition of the Mt. Pinatubo aerosol cloud derived from ISAMS measurements', American Geophysical Union Spring Meeting, December 1993, supplement, EOS, **74**, no. 43, 126, 1993.

Grainger R. G., A. Lambert, C. D. Rodgers and F. W. Taylor, Polar stratospheric clouds International Conference on Ozone in the Lower Stratosphere, Halkidiki, abstract volume, 1995.

Kerridge B. J., J. J. Remedios, C. Harrold, A. Stevens, P. Morris, and F. W. Taylor, 'Retrieval of stratospheric NO from IR measurements by the Improved Stratospheric and Mesospheric Sounder', IUGG XXI General Assembly, 1995.

Lambert A., J. J. Remedios, A. Dudhia, M. Corney, B. J. Kerridge, C. D. Rodgers and F. W. Taylor, ISAMS observations of stratospheric aerosol, 29th Plenary Meeting of the Committee on Space Research (COSPAR), World Space Congress, Washington D. C., September 1992.

Lambert A., R. Grainger, M. Corney, J. J. Remedios, C. D. Rodgers, F. W. Taylor, and B. J. Kerridge, ISAMS measurements of the spatial, temporal and spectral evolution of the Mt. Pinatubo aerosol cloud, *Annales Geophysicae*, **11**, *Suppl. III*, C426. Proc. XVIII Gen. Ass. Eur. Geophys. Soc., abstract volume, 1993.

Lambert A., R. G. Grainger, B. N. Lawrence, W. A. Norton, J. J. Remedios, C. D. Rodgers and F. W. Taylor, UARS/ISAMS observations of the break-up of the 1991 antarctic vortex, *Annales Geophysicae*, **12**, *Suppl. II, Part II*, C286. Proc. XIX Gen. Ass. Eur. Geophys. Soc., abstract volume, 1994.

Lambert, A., R. G. Grainger, C. D. Rodgers and F. W. Taylor, Stratospheric aerosols following the eruption of Mt Pinatubo International Conference on Ozone in the Lower Stratosphere, Halkidiki, abstract volume, 1995.

López-Valverde M. A., M. López-Puertas, F. W. Taylor, and J. J. Remedios, 'ISAMS Measurements of carbon monoxide in the middle atmosphere', *Annales Geophysicae*, **11**, *Suppl. III* p C426. Proc. XVIII Gen. Ass. Eur. Geophys. Soc., abstract volume, 1993.

López-Puertas M., G. Zaragoza, M. Goss-Custard, F. W. Taylor, and B. J. Kerridge, 'Non-Local Thermodynamic Equilibrium in the ν_2 Mode of Mesospheric Water Vapour', *Annales Geophysicae*, **11**, *Suppl. III* p C426. Proc. XVIII Gen. Ass. Eur. Geophys. Soc., abstract volume, 1993.

Remedios J. J., and C. D. Rodgers, 'The behaviour of HNO₃ during the Northern Hemisphere Winter of 1991/92', American Meteorological Society Ninth Conference on the Middle Atmosphere, 1994.

Remedios J. J., B. J. Kerridge, W. J. Reburn, and F. W. Taylor, 'Observations of NO₂ in the Polar Upper Stratosphere and Mesosphere by the Improved Stratospheric and Mesospheric Sounder', IUGG XXI General Assembly, 1995.

Remedios J. J., S. R. Kawa, A. E. Roche, J. B. Kumer, and W. G. Read, 'HNO₃ Distributions Observed by UARS Instruments During Northern Hemisphere Winters', International Conference on Ozone in the Lower Stratosphere, 1995

Smith. S. E., J. J. Remedios, F. W. Taylor, M. P. Chipperfield, Observations of the Diurnal Variation of Stratospheric N₂O₅ by the Improved Stratospheric and Mesospheric Sounder, American Geophysical Union Fall Meeting, December 1995, supplement, *EOS*, **76**, no. 46, p80, 1995.

Strahan S. E., R. B. Rood, A. R. Douglass, and J. J. Remedios, 'Tracer transport during the December 1991 Minor Warming Observed by ISAMS and Comparison with Results from a 3D Chemical Transport Model' American Geophysical Union Spring Meeting, May 1993, supplement, *EOS*, **74**, no. 16, 92, 1993.

Taylor F. W., C. D. Rodgers, J. J. Barnett, R. J. Wells, A. Dudhia, J. J. Remedios, A. Lambert, R. Grainger, P. Morris, M. Goss-Custard, J. Reburn, N. Livesey, J. Ballard, and R. Knight, The improved stratospheric and mesospheric sounder on UARS: experiment description and preliminary results, *Annales Geophysicae*, **11**, *Suppl. III*, C428. Proc. XVIII Gen. Ass. Eur. Geophys. Soc., abstract volume, 1993.