Praful Bhatt

List of Publications and Presentations

Technical Publications

*Note: All of the publications listed below are based on analyses large data sets (satellite, shuttle, ground-based, balloon, rocketsonde, and/or airborne platforms), numerical simulations, statistical analyses, modeling/simulations of imaging systems (electro-optical, chemical, and dynamic), correlative comparisons, time-series trend estimation, radiative transfer theory, climatology, and development of actionable predictive models. In general, irrespective of the first author, Praful Bhatt developed the software employed for analyses and visualization.*

1. A Survey of Spectral Exploitation Tools, Techniques, and Algorithm, Bhatt, P. P. and P. E. Lewis, 130 pp., October 2001.
2. An Assessment of the Quality of Halogen Occultation Experiment Temperature Profiles in the Mesosphere Based on Comparison with Rayleigh Backscatter Lidar and Inflatable Sphere Measurements, Remsberg, E. E., L. E. Deaver, J. Wells, G. Lingenfelser, P. Bhatt, L. Gordley, R. Thompson, M. McHugh, J. M. Russell III, L. P. Kekhut, and F. J. Schmidlin, Journal of Geophysical Research, 107, 4447, 2002.
3. The Nimbus 7 LIMS version 6 radiance conditioning and temperature retrieval methods and results, Remsberg, E. E., L. Gordley, B. T, Marshall, R. E. Thompson, J. Burton, P. Bhatt, et al., JQRST, Volume 86, Issue 4, 15 July 2004, Pages 395–424
4. Seasonal and Longer-Period Cycles in Middle Atmosphere Temperature at 40N from UARS HALOE data, Remsberg, E. E., P.P. Bhatt, and L. E. Deaver, Journal of Geophysical Research, 107, 4411, 2002.
5. Ozone Changes in the Lower Stratospheric from the Halogen Occultation Experiment for 1991 Through 1999, Remsberg, E. E., P. P. Bhatt, and L. E. Deaver, Journal of Geophysical Research, 106, 1639-1653, January 27, 2001.
6. An Evaluation of the Quality of HALOE Ozone Profiles in the Lower Stratosphere, Bhatt, P. P., E. E. Remsberg, L. L. Gordley, J. M. McInerney, V. G. Brackett, and J. M. Russell III, Journal of Geophysical Research, 104, 9261-9275, 1999.
7. Zonal Variance of Nitric acid Vapor as an Indicator of Meridional Mixing in the Subtropical Lower Stratosphere, Remsberg, E. E. and P. P. Bhatt, Journal of Geophysical Research, 101, 29523-29530, 1996.
8. Improvements in Nimbus 7 Limb Infrared Monitor of Stratosphere Ozone Profiles as Obtained with Updated Spectral line Parameters and Radiance Algorithms, Remsberg, E. E., J. C. Burton, L. L. Gordley, B. T. Marshall, P. P. Bhatt, and T. M. Miles, Journal of Geophysical Research, 100, 16727-16733, 1995
9. Estimates of the Water Vapor Budget of the Stratosphere From UARS HALOE Data, Remsberg, E. E., P. P. Bhatt, and J. M. Russell III, Journal of Geophysical Research, 101, 6749-6766, 1996.
10. Effect of the HITRAN 92 Spectral Data on the Retrieval of NO2 Mixing Ratios From Nimbus 7 LIMS, Remsberg, E. E., P. P. Bhatt, R. S. Eckman, L. L. Gordley, J. M. Russell III, and D. E. Siskind, Journal of Geophysical Research, 99, 23965, 1994.
11. An Assessment of Satellite Temperature Distributions Used to Derive the Net Diabatic Transport for Zonally Averaged Models of the Middle Atmosphere, Remsberg, E. E., P. P. Bhatt, and T. Miles, Journal of Geophysical Research, 99, 23001, 1994.
12. A Time Series Approach to a Search for Biases in Satellite-derived Temperature Profiles, Bhatt, P. P., E. E. Remsberg, F. J. Schmidlin, L. L. Gordley, and J. C. Burton, Geophysical Research Letters, 21, 1145, 1994.
13. A Time Series Comparison of Satellite and Rocketsonde Temperatures in 1978-79, E. E. Remsberg, P. P. Bhatt and F. J. Schmidlin; NASA Technical Paper, TP 3409, Hampton, VA, 1993.
14. The Accuracy of Temperature Distribution Used to Derive the net Transport for Zonally Averaged Model, E. E. Remsberg and P. P. Bhatt; Paper presented at the symposium in Charlottesville, VA. Published in the Proceedings of the Quadrennial Ozone Symposium 1992.
15. Ca+ Emissions in the Sunlit Ionosphere, M. R. Torr, D. G. Torr, P. P. Bhatt, W. Swift, H. Dougani; Journal of Geophysical Research, 95, 2379, 1990.
16. Theoretical and Experimental Studies of N2+ Ions in the Twilight Thermosphere, P.P. Bhatt, M. S. Thesis, University of Alabama in Huntsville, 1988

Conference Papers

1. Analysis of Aerosol Extinction in HALOE Gas Channels in the Troposphere, Bhatt, P. P. and E. E. Remsberg, Talk given at NASA Ames Research Center, November 1999.
2. Variation in Lower Stratospheric Ozone from HALOE Data, Bhatt, P. P., E. E. Remsberg, and L. E. Deaver, Presented at the AEAP Meeting, Virginia Beach VA, 1999.
3. The Quality of UARS HALOE Ozone in the Lower Stratosphere and Upper Troposphere Bhatt, P. P., E. E. Remsberg, R. B. Pierce, V. G. Brackett, and J.M. Russell III, Presented at the AEAP meeting in Virginia Beach, VA, April 27-May 1, 1998.
4. A Study of the Quality of HALOE O3 Near the Tropopause, Bhatt, P. P., E. E. Remsberg, R. B. Pierce, V. G. Brackette, and EOS, 78, No. 17, S98, 1997.
5. A Study of Global Distribution of HF vs CH4 Correlation and Their Slopes Using UARS HALOE Data, Bhatt, P. P. and E. E. Remsberg, EOS, 76, F95, 1995.
6. Estimates of Stratospheric Water Vapor Budget From UARS Data, Bhatt, P. P. and E. E. Remsberg, IUGG, 21, B278, 1995.
7. The Impact of the 1992 AFGL Ozone Spectral Line Parameters on the Retrieval of Nimbus 7 LIMS Ozone, E. E. Remsberg, L. Gordley, and P. P. Bhatt, HSRP Meeting, Virginia Beach, VA, June 1993.
8. A Reassessment of the Quality of Nimbus 7 LIMS Temperatures Based on Comparison with Rocketsondes, P. P. Bhatt, and E. E. Remsberg; EOS, 74, 75, 1993.
9. The Impact of the 1992 AFGL Ozone Spectral Line Parameters on the Retrieval of Nimbus 7 LIMS Ozone, E. E. Remsberg, L. Gordley, and P. P. Bhatt; June 1993, HSRP Meeting, Virginia Beach, VA.
10. Upper Atmosphere Global Morphology of Active NO as Revealed by HALOE, SAGE II and LIMS Comparisons, Gordley, L. L., G. M. Beaver, E. E. Remsberg, J. M. Russell, III, and P. P. Bhatt; EOS, 74, 134-135, 1993.
11. A Reassessment of the Quality of Nimbus 7 LIMS Temperatures Based on Comparison with Rocketsondes, P. P. Bhatt, and E. E. Remsberg, EOS, 74, 75, 1993. The Accuracy of Nimbus 7 LIMS Temperatures in the Arctic Lower Stratosphere, E. E. Remsberg, P. P. Bhatt, and T. M. Miles; Journal of Geophysical Research, 97, 13001, 1992.
12. Revised Determinations of Stratospheric Water Vapor from Nimbus 7 LIMS, P. P. Bhatt, E. E. Remsberg, J. M. Russell III, L. L. Gordley; EOS, 71, 1247, 1990.
13. The Accuracy of Nimbus 7 LIMS Temperatures in the Arctic, E. E. Remsberg and P. P. Bhatt, EOS, 72, 41, 1991.
14. Ground Based Observations of the O(1S-2D) Emission at 3726A , P. P. Bhatt, D. G. Torr, P. G. Richards, W. Swift, H. Dougani and M. R. Torr; EOS, 70, 407, 1989.
15. Twilight Observations and Modeling of N2+ First Negative Bands, W. R. Swift, D. G. Torr, P. G. Richards, P. P. Bhatt, C. L. Hamilton, R. L. Goodwin and M. R. Torr; EOS, 70, 1234, 1989.
16. Modeling of the Vacuum Ultraviolet Shuttle Glow Observed on Spacelab 1, D. G. Torr, P. G. Richards, P. P. Bhatt, and M. R. Torr; EOS, 70, 1249, 1989.
17. Comparison of Theoretical Calculations and Ground Based Observations of the N2+ First Negative Bands, P. P. Bhatt, D. G. Torr, M. R. Torr, P. G. Richards, W. Swift and H. Dougani; EOS, 69, 418, 1988.
18. Comparison of Model Twilight Airglow Emission Intensities With Scattered Background Emissions, P. G. Richards, D. G. Torr, W. Swift, C. Hamilton, P. P. Bhatt, J. Eun; Presented at the Third Summer CEDAR Workshop in Boulder, Colorado, June 6-10, 1988.
19. Spectral Extraction from Twilight Airglow, W. Swift, D. G. Torr, M. R. Torr, C. Hamilton, P. P. Bhatt; presented at the Third Summer CEDAR Workshop in Boulder, Colorado, June 6-10, 1988.

Unpublished Work

1. Results of EO sensor system analyses with HgCdTe FPA and Offner grating, Bhatt, P. P.
2. HYDICE Focal Plane Array Characterizations and its Impact on Radiometric Calibration, Bhatt, P. P. (Preprint)
3. Evaluation of Ultra-relativistic Particle Pairs in Testing Strong Equivalence Principle (SEP), Bhatt, P. P. and B. P. Bhatt, 2003.
4. A Critical Review of General Relativity: A New Approach Using Five Dimensional Space, Bhatt, P. P., 1976.
5. Ultimate Fate of Black Holes and Origin of the Universe, Bhatt, P. P. , 1974.