Peer-Reviewed Publications Related to GPS Atmospheric Limb Sounding Through February 2005

(May contain some omissions)

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Blue color indicates papers with JPL personnel as primary authors
Green color indicates papers with JPL personnel as co-authors
Red color indicates papers enabled by JPL instruments

"How well can long-term climate trends be assessed or predicted?"

1993 Yuan et al. Sensing climate-change using the global positioning system
J GEOPHYS RES-ATMOS 98 (D8): 14925-14937 AUG 20 1993

1997 Leroy Measurement of geopotential heights by GPS radio occultation
J GEOPHYS RES-ATMOS 102 (D6): 6971-6986 MAR 27 1997

1998 Goody et al. Testing climate models: An approach
B AM METEOROL SOC 79 (11): 2541-2549 NOV 1998

2000 Leroy and North The application of COSMIC data to global change research
TERR ATMOS OCEAN SCI 11 (1): 187-210 MAR 2000

2000 Wu et al. Weather and climate research in Taiwan: Potential application of GPS/MET data
TERR ATMOS OCEAN SCI 11 (1): 211-234 MAR 2000

2001 Steiner et al. GNSS occultation sounding for climate monitoring
PHYS CHEM EARTH PT A 26 (3): 113-124 2001

2004 Bizzarri, B., et al., GPS radio occultation sounding to support general circulation models
Nuovo Cimento Della Societa Italiana Di Fisica C-Geophysics and Space Physics, *27* (1), 59-71

2004 Hajj, G.A., et al. CHAMP and SAC-C atmospheric occultation results and intercomparisons
Journal of Geophysical Research-Atmospheres, *109* (D6), art. no.-D06109

"How are global precipitation, evaporation, and the cycling of water changing"

1995 Kursinski et al. Observing tropospheric water-vapor by radio occultation using the global positioning system
GEOPHYS RES LETT 22 (17): 2365-2368 SEP 1 1995

2000 O'Sullivan et al. Retrieval of water vapor profiles from GPS/MET radio occultations
B AM METEOROL SOC 81 (5): 1031-1040 MAY 2000

2001 Kursinski et al. A comparison of water vapor derived from GPS occultations and global weather analyses
J GEOPHYS RES-ATMOS 106 (D1): 1113-1138 JAN 16

"What trends in atmospheric constituents and solar radiation are driving global climate?"
"How do stratospheric trace constituents respond to changes in climate and atmospheric composition?"
Tropopause and Gravity Wave Research – the chemistry-climate connection

2000 Nastrom et al. A comparison of gravity wave energy observed by VHF radar and GPS/MET over central North America
J GEOPHYS RES-ATMOS 105 (D4): 4685-4687 FEB 27 2000

2000 Nishida et al. Seasonal and longitudinal variations in the tropical tropopause observed with the GPS occultation technique (GPS/MET)
J METEOROL SOC JPN 78 (6): 691-700 DEC 2000

2000 Steiner et al. Gravity wave spectra from GPS/MET occultation observations
J ATMOS OCEAN TECH 17 (4): 495-503 APR 2000

2000 Tsuda et al. A global morphology of gravity wave activity in the stratosphere revealed by the GPS occultation data (GPS/MET)
J GEOPHYS RES-ATMOS 105 (D6): 7257-7273 MAR 27 2000

2001 Hocke et al. Gravity waves and ionospheric irregularities over tropical convection zones observed by GPS/MET radio occultation
GEOPHYS RES LETT 28 (14): 2815-2818 JUL 15 2001

2001 Hocke et al. Global sounding of sporadic E layers by the GPS/MET radio occultation experiment
J ATMOS SOL-TERR PHY 63 (18): 1973-1980 DEC 2001

2001 Igarashi et al. Observation of wave structures in the upper atmosphere by means of radio holographic analysis of the radio occultation data
ADV SPACE RES 27 (6/7): 1321-1326 2001

2002 Tsuda et al. Vertical wave number spectrum of temperature fluctuations in the stratosphere using GPS occultation data
Journal of the Meteorological Society of Japan, *80* (4B), 925-938

2002 Hocke, et al. A study of stratospheric GW fluctuations and sporadic E at midlatitudes with focus on possible orographic effect of Andes
Journal of Geophysical Research-Atmospheres, *107* (D20), art. no.-4428

2002 Alexander et al. Latitudinal variations observed in gravity waves with short vertical wavelengths
Journal of the Atmospheric Sciences, *59* (8), 1394-1404

2003 Randel et al. Thermal variability of the tropical tropopause region derived from GPS/MET observations
Journal of Geophysical Research-Atmospheres, *108* (D1), art. no.-4024

2004 Tsuda, et al. Characteristics of gravity waves with short vertical wavelengths observed with radiosonde and GPS occultation during DAWEX (Darwin Area Wave Experiment)
Journal of Geophysical Research-Atmospheres, *109* (D20), 2004.

2004 Tsai, et al. Equatorial Kelvin waves observed with GPS occultation measurements (CHAMP and SAC-C)
Journal of the Meteorological Society of Japan, *82* (1B), 397-406

2004 Schmidt, et al. Tropical tropopause parameters derived from GPS radio occultation measurements with CHAMP, *Journal of Geophysical Research-Atmospheres*, *109* (D13), 2004.

2004 Ratnam, et al. Global and seasonal variations of stratospheric gravity wave activity deduced from the CHAMP/GPS satellite *Journal of the Atmospheric Sciences*, *61* (13), 1610-1620

2004 De la Torre, et al. A global distribution of the stratospheric gravity wave activity from GPS occultation profiles with SAC-C and CHAMP, *Journal of the Meteorological Society of Japan*, *82* (1B), 407-417, 2004.

2005 Randel, et al. Kelvin wave variability near the equatorial tropopause observed in GPS radio occultation *J. Geophys. Res.*, *110* (D03102).

"How can weather forecast duration and reliability be improved by new space-based observations, data assimilation, and modeling?"

1995 Zou et al. Assimilation of atmospheric radio refractivity using a nonhydrostatic adjoint model MON WEATHER REV 123 (7): 2229-2249 JUL 1995

1998 Kuo et al. A GPS/MET sounding through an intense upper-level front B AM METEOROL SOC 79 (4): 617-626 APR 1998

1998 Kuo et al. The impact of Global Positioning System data on the prediction of an extratropical cyclone: an observing system simulation experiment DYNAM ATMOS OCEANS 27 (1-4): 439-470 JAN 1998

1999 Zou et al. A ray-tracing operator and its adjoint for the use of GPS/MET refraction angle measurements J GEOPHYS RES-ATMOS 104 (D18): 22301-22318 SEP 27 1999

2000 Kuo et al. Assimilation of GPS radio occultation data for numerical weather prediction TERR ATMOS OCEAN SCI 11 (1): 157-186 MAR 2000

2000 Zou et al. Use of GPS/MET refraction angles in three-dimensional variational analysis Q J ROY METEOR SOC 126 (570): 3013-3040 Part B OCT 2000

2001 Johnsen & Rockel Validation of a regional weather forecast model with GPS data PHYS CHEM EARTH PT B 26 (5-6): 415-419 2001

2001 Liu H Impact of 837 GPS/MET bending angle profiles on assimilation and forecasts for the period June 20-30, 1995 J GEOPHYS RES-ATMOS 106 (D23): 31771-31786 DEC 16 2001

2002 Shao et al. The impact of observational weighting on the assimilation of GPS/MET bending angle *Journal of Geophysical Research-Atmospheres*, *107* (D23), art. no.-4717

2003 Liu, H. et al. Improvements to a GPS radio occultation ray-tracing model and their impacts on assimilation of bending angle *Journal of Geophysical Research-Atmospheres*, *108* (D17)

2003 Collard, et al. The combined impact of future space-based atmospheric sounding instruments on numerical weather-prediction analysis fields: A simulation study
Quarterly Journal of the Royal Meteorological Society, *129* (593), 2741-2760

2003 Borbas, et al. Combining radio occultation refractivities and IR/MW radiances to derive temperature and moisture profiles: A simulation study plus early results using CHAMP and ATOVS
Journal of Geophysical Research-Atmospheres, *108* (D21), art. no.-4676

2004 Zou, et al. Impact of CHAMP radio occultation observations on global analysis and forecasts in the absence of AMSU radiance data
Journal of the Meteorological Society of Japan, *82* (1B), 533-549

2005 Healy, et al., Forecast impact experiment with GPS radio occultation measurements
Geophysical Research Letters, *32*, L03804, 2005.

Overview and Missions

2000 Anthes et al. Applications of COSMIC to meteorology and climate
TERR ATMOS OCEAN SCI 11 (1): 115-156 MAR 2000

2000 Kursinski et al. The GPS radio occultation technique
TERR ATMOS OCEAN SCI 11 (1): 53-114 MAR 2000

2000 Loiselet et al. GRAS - Metop's GPS-based atmospheric sounder
ESA BULL-EUR SPACE (102): 38-44 MAY 2000

2000 Rocken et al. COSMIC system description
TERR ATMOS OCEAN SCI 11 (1): 21-52 MAR 2000

2000 Yunck et al. A history of GPS sounding
TERR ATMOS OCEAN SCI 11 (1): 1-20 MAR 2000

2002 Reigber et al. CHAMP mission status,
New Trends in Space Geodesy, pp. 129-134

2004 Schmidt, et al. GPS radio occultation with CHAMP: an innovative remote sensing method of the atmosphere
Climate Change Processes in the Stratosphere, Earth-Atmosphere- Ocean Systems, and Oceanographic Processes from Satellite Data, pp. 1036-1040

Results from Experiments

1996 Kursinski et al. Initial results of radio occultation observations of Earth's atmosphere using the global positioning system
SCIENCE 271 (5252): 1107-1110 FEB 23 1996

1996 Ware et al. GPS sounding of the atmosphere from low earth orbit: Preliminary results
B AM METEOROL SOC 77 (1): 19-40 JAN 1996

1997 Rocken et al. Analysis and validation of GPS/MET data in the neutral atmosphere
J GEOPHYS RES-ATMOS 102 (D25): 29849-29866 DEC 27 1997

1999 Steiner et al. Inversion, error analysis, and validation of GPS/MET occultation data

ANN GEOPHYS-ATM HYDR 17 (1): 122-138 JAN 1999

2001 Marquardt et al. An assessment of the quality of GPS/MET radio limb soundings during February 1997
Physics and Chemistry of the Earth Part a-Solid Earth and Geodesy, *26* (3), 125-130

2001 Gorbunov et al. Analysis and validation of GPS/MET radio occultation data
J GEOPHYS RES-ATMOS 106 (D15): 17161-17169 AUG 16 2001

2001 Wickert et al. Atmosphere sounding by GPS radio occultation: First results from CHAMP
GEOPHYS RES LETT 28 (17): 3263-3266 SEP 1 2001

2002 Wickert et al. GPS radio occultation with CHAMP: Atmospheric profiling utilizing the space-based single difference technique
GEOPHYS RES LETT 29 (8): APR 18 2002

2001 Beyerle and Hocke Observation and simulation of direct and reflected GPS signals in radio occultation
Geophys. Res. Lett., vol. 28, no. 9, pp. 1895-1898, 2001

2002 Poli et al. 1DVAR analysis of temperature and humidity using GPS radio occultation refractivity data
Journal of Geophysical Research-Atmospheres, *107* (D20), art. no.-4448

2002 Pavelyev et al. First application of the radioholographic method to wave observations in the upper atmosphere
Radio Science, *37* (3), art. no.-1043

2002 Hajj et al. GPS radio occultations coming of age: spacecraft launches add two new instruments for climate monitoring
EOS TRANS. AGU 83 (4): 22 JAN 2002

2003 Shroder et al. Validating the microwave sounding unit stratospheric record using GPS occultation
Geophysical Research Letters, *30* (14)

2003 Poli, et al. Evaluation of CHAMP radio occultation refractivity using data assimilation office analyses and radiosondes
Geophysical Research Letters, *30* (15)

2003 Kawatani, et al. Large potential energy of gravity waves over a smooth surface with little convection: Simulation and observation
Geophysical Research Letters, *30* (8)

2003 Gorbunov, et al. Analysis and validation of challenging minisatellite payload (CHAMP) radio occultation data
Journal of Geophysical Research-Atmospheres, *108* (D18), art. no.-4584

2004 Wickert, et al. The radio occultation experiment aboard CHAMP: Operational data analysis and validation of vertical atmospheric profiles
Journal of the Meteorological Society of Japan, *82* (1B), 381-395

2004 Wang, et al. Cross-validation of MIPAS/ENVISAT and GPS-RO/CHAMP temperature profiles
Journal of Geophysical Research-Atmospheres, *109* (D19)

2004 Johnsen, et al. Comparison of atmospheric water vapor over Antarctica derived from CHAMP/GPS and AMSU-B data
Physics and Chemistry of the Earth, *29* (2-3), 251-255

Discussions of Technique/Errors/Applications

1990 Gurvich et al. Navigation satellites for radio sensing of the Earth's atmosphere
SOVIET JOURNAL OF REMOTE SENSING 7 (6): 1124-1131 1990

1994 Hardy et al. Accuracies of atmospheric profiles obtained from GPS occultations
INT. J. SATELL. COMMUN., 12, 463-473, 1994.

1994 Melbourne et al. The application of spaceborne GPS to atmospheric limb sounding and global change monitoring
JPL PUBLICATION 94-18, April 1994

1994 Vorob'ev et al. An estimation of accuracy of the atmospheric refractive-index recovery from measurements of doppler shifts at frequencies used in the navstar system
IZVESTIYA AKADEMII NAUK FIZIKA ATMOSFERY I OKEANA 29 (5): 626-633 SEP-OCT 1993

1995 Yakovlev et al. Attenuation and scintillation of radio waves in the Earth's atmosphere from radio occultation experiments on satellite-to-satellite links
RADIO SCI 30 (3) pp. 591-602 MAY-JUN 1995

1996 Ladreiter et al. GPS/GLONASS sensing of the neutral atmosphere: Model-independent correction of ionospheric influences
RADIO SCI 31 (4): 877-891 JUL-AUG 1996

1996 Gorbunov Three-dimensional satellite refractive tomography of the atmosphere: Numerical simulation
RADIO SCI 31 (1): 95-104 JAN-FEB 1996

1997 Hocke Inversion of GPS meteorology data
ANN GEOPHYS-ATM HYDR 15 (4): 443-450 APR 1997

1997 Kursinski et al. Observing Earth's atmosphere with radio occultation measurements using the Global Positioning System
J GEOPHYS RES-ATMOS 102 (D19): 23429-23465 OCT 20 1997

1998 Ahmad et al. The two-dimensional resolution kernel associated with retrieval of ionospheric and atmospheric refractivity profiles by Abelian inversion of radio occultation phase data
RADIO SCI 33 (1): 129-142 JAN-FEB 1998

1998 Syndergaard Modeling the impact of the Earth's oblateness on the retrieval of temperature and pressure profiles from limb sounding
J ATMOS SOL-TERR PHY 60 (2): 171-180 JAN 1998

1999 Ahmad et al. Systematic errors in atmospheric profiles obtained from Abelian inversion of radio occultation data: Effects of large-scale horizontal gradients
J GEOPHYS RES-ATMOS 104 (D4): 3971-3992 FEB 27 1999

1999 Solheim et al. Propagation delays induced in GPS signals by dry air, water vapor, hydrometeors, and other particulates
J GEOPHYS RES-ATMOS 104 (D8): 9663-9670 APR 27 1999

1999 Yan et al. Sequential atmospheric profiles near a fixed location derived from GPS-LEO occultation measurements
GEOPHYS RES LETT 26 (4): 451-453 FEB 15 1999

2000 Igarashi et al. Radio holographic principle for observing natural processes in the atmosphere and retrieving meteorological parameters from radio occultation data
EARTH PLANETS SPACE 52 (11): 893-899 2000

2000 Sokolovskiy Inversions of radio occultation amplitude data
RADIO SCI 35 (1): 97-105 JAN-FEB 2000

2000 Rieder and Kirchengast An inversion algorithm for nonlinear retrieval problems extending Bayesian optimal estimation
RADIO SCIENCE 35 (1): 45-56 JAN-FEB 2000

2000 Syndergaard On the ionosphere calibration in GPS radio occultation measurements
RADIO SCI 35 (3): 865-883 MAY-JUN 2000

2001 Wickert et al. GPS ground station data for CHAMP radio occultation measurements
Physics and Chemistry of the Earth Part a-Solid Earth and Geodesy, *26* (6-8), 503-511

2001 Healy et al. Radio occultation bending angle and impact parameter errors caused by horizontal refractive index gradients in the troposphere: A simulation study
J GEOPHYS RES-ATMOS 106 (D20): 24087-24087 OCT 27 2001

2001 Healy et al. Smoothing radio occultation bending angles above 40 km
ANN GEOPHYS 19 (4): 459-468 APR 2001

2001 Rieder and Kirchengast Error analysis and characterization of atmospheric profiles retrieved from GNSS occultation data
J GEOPHYS RES-ATMOS 106 (D23): 31755-31770 DEC 2001

2001 Hocke et al. General aspect of GPS data use for atmospheric science
ADV SPACE RES 27 (6/7): 1313-1320 2001

2001 Huang et al. Controls of the sounding points in space-based GPS/LEO meteorology
J ATMOS SOL-TERR PHY 63 (15): 1601-1607 OCT 2001

2001 Sokolovskiy Modeling and inverting radio occultation signals in the moist troposphere
RADIO SCI 36 (3): 441-458 MAY-JUN 2001

2001 Sokolovskiy Tracking tropospheric radio occultation signals from low Earth orbit
RADIO SCI 36 (3): 483-498 MAY-JUN 2001

2002 Zou et al. A statistical estimate of errors in the calculation of radio-occultation bending angles caused by a 2D approximation of ray tracing and the assumption of spherical symmetry of the atmosphere
J ATMOS OCEAN TECH 19 (1): 51-64

2001 Foelsche and Kirchengast Tropospheric water vapor imaging by combination of ground-based and spaceborne GNSS sounding data
J GEOPHYS RES-ATMOSPHERES 106(D21): 27221-27231 NOV 16 2001

2002 Hajj et al. A technical description of atmospheric sounding by GPS occultation
J ATMOS SOL-TERR PHY 64 (4): 451-469 MAR 2002

2002 Jiang H Effect of the assumption of circular satellite orbit on the derivation of earth's atmospheric parameters from GPS radio occultation data
CHINESE ASTRON ASTR 26 (1): 64-68 JAN-MAR 2002

2002 Pavelyev et al. Radioholographic method for observation of reflections from the Earth's surface and of wave structures based on occultations
J COMM TECH AND ELEC 47 (6): 609-614 JUN 2002

2002 Lesne et al. Sensitivity analysis for airborne sounding of the troposphere by GNSS radio occultation
PHYSICS AND CHEMISTRY OF THE EARTH 27 (4-5): 291-299 2002

2003 Beyerle et al. Simulation studies of GPS radio occultation measurements
Radio Science, 38 (5)

2003 von Engeln, et al. One-dimensional variational (1-D Var) retrieval of temperature, water vapor, and a reference pressure from radio occultation measurements: A sensitivity analysis
Journal of Geophysical Research-Atmospheres, *108* (D11)

2003 Sokolovskiy et al. Effect of superrefraction on inversions of radio occultation signals in the lower troposphere
Radio Science, *38* (3)

2003 Jensen, et al. Full spectrum inversion of radio occultation signals
Radio Science, *38* (3), art. no.-1040

2003 Hocke, K. et al. High-resolution profiling of layered structures in the lower stratosphere by GPS occultation
Geophysical Research Letters, *30* (8), art. no.-1426

2003 de la Torre Juarez et al. On the detection of water vapor profiles and thin moisture layers from atmospheric radio occultations
Journal of Geophysical Research-Atmospheres, *108* (D9)

2003 Ao, et al. Lower troposphere refractivity bias in GPS occultation retrievals
Journal of Geophysical Research-Atmospheres, *108* (D18)

2004 Pavelyev, et al. Diffractive vector and scalar integrals for bistatic radio holographic remote sensing
Radio Science, *39* (4)

2004 Kuo, et al. Inversion and error estimation of GPS radio occultation data
Journal of the Meteorological Society of Japan, *82* (1B), 507-531

2004 Juarez, et al. Single frequency processing of atmospheric radio occultations
International Journal of Remote Sensing, *25* (18), 3731-3744, 2004.

2004 Jensen, et al. Geometrical optics phase matching of radio occultation signals
Radio Science, *39* (3)

2004 Aparicio, et al. A raytracing inversion procedure for the extraction of the atmospheric refractivity from GNSS travel-time data
Physics and Chemistry of the Earth, *29* (2-3), 213-224, 2004.

2004 Beyerle, G., et al. Atmospheric sounding by global navigation satellite system radio occultation: An analysis of the negative refractivity bias using CHAMP observations
Journal of Geophysical Research-Atmospheres, *109* (D1), art. no.-D01106

2004 Foelsche, U. Sensitivity of GNSS radio occultation data to horizontal variability in the troposphere
Physics and Chemistry of the Earth, *29* (2-3), 225-240

Diffraction correction

1997 Karayel et al. Sub-Fresnel-scale vertical resolution in atmospheric profiles from radio occultation
RADIO SCI 32 (2): 411-423 MAR-APR 1997

1998 Mortensen et al. Inversion of GPS occultation measurements using fresnel diffraction theory
GEOPHYS RES LETT 25 (13): 2441-2444 JUL 1 1998

1999 Hocke et al. Radio occultation data analysis by the radioholographic method
J ATMOS SOL-TERR PHY 61 (15): 1169-1177 OCT 1999

1999 Mortensen et al. Vertical resolution approaching 100 m for GPS occultations of the Earth's atmosphere
RADIO SCI 34 (6): 1475-1484 NOV-DEC 1999

1999 Gorbunov et al. Comparative analysis of radioholographic methods of processing radio occultation data
RADIO SCI 35 (4): 1025-1034 JUL-AUG 2000

2000 Gorbunov et al. Comparative analysis of radioholographic methods of processing radio occultation data
Radio Science, *35* (4), 1025-1034

2001 Gorbunov et al. Back-propagation and radio-holographic methods for investigation of sporadic ionospheric E-layers from Microlab-1 data
INT J REMOTE SENS 23 (4): 675-685 FEB 2002

2002 Gorbunov Radioholographic analysis of radio occultation data in multipath zones
RADIO SCI 37 (1): art. no. 1014 JAN-FEB 2002

2002 Gorbunov, et al. Radio-holographic analysis of Microlab-1 radio occultation data in the lower troposphere
Journal of Geophysical Research-Atmospheres, *107* (D12), art. no.-4156

2002 Gorbunov Canonical transform method for processing radio occultation data in the lower troposphere
RADIO SCI 37 (5): 10.1029/2000RS002592 2002

2002 Gorbunov Ionospheric correction and statistical optimization of radio occultation data
RADIO SCI 37 (5): 10.1029/2000RS002370 2002

2002 Beyerle et al. GPS radio occultations with CHAMP: A radio holographic analysis of GPS signal propagation in the troposphere and surface reflections,
Journal of Geophysical Research-Atmospheres, *107* (D24), art. no.-4802

Synergy between GPS Occultations and other data types

2000 von Engeln et al. MAS-GRAS sensor combination and optimal estimation retrieval of temperature and H2O profiles
PHYSICS AND CHEMISTRY OF THE EARTH -SOLID EARTH AND GEODESY 25 (8): 625-628 2000

2000 Foelsche et al. Tropospheric water vapor imaging by combination of ground-based and spaceborne GNSS sounding data
J GEOPHYS RES-ATMOS 106 (D21): 27221-27231 NOV 16 2001

2001 von Engeln et al. Temperature profile retrieval from surface to mesopause by combining GNSS radio occultation and passive microwave limb sounder data
GEOPHYSICAL RESEARCH LETTERS 28 (5): 775-778 MAR 1 2001

Model-based retrieval estimation (1DVAR)

2000 Healy et al. Retrieving temperature, water vapour and surface pressure information from refractive-index profiles derived by radio occultation: A simulation study
Q J ROY METEOR SOC 126 (566): 1661-1683 Part A JUL 2000

2000 Palmer et al. A nonlinear optimal, estimation inverse method for radio occultation measurements of temperature, humidity, and surface pressure
J GEOPHYS RES-ATMOS 105 (D13): 17513-17526 JUL 16 2000

2000 Kursinski et al. Initial results of combining GPS occultations with ECMWF global analyses within a 1DVar framework
EARTH PLANETS AND SPACE 52 (11): 885-892 2000

2001 Palmer & Barnett Application of an optimal estimation inverse method to GPS/MET bending angle observations
J GEOPHYS RES-ATMOS 106 (D15): 17147-17160 AUG 16 2001

Atmospheric Turbulence

2001 Yakovlev et al. Atmospheric decimeter radio-wave phase fluctuations in satellite-to-satellite occultations
J COMMUN TECHNOL EL 46 (12): 1326-1330 DEC 2001

Cross-links (occultations at frequencies other than GPS)

2000 Yunck et al. AMORE: An autonomous constellation concept for atmospheric and ocean obs…
ACTA ASTRONAUT 46 (2-6): 355-364 JAN-MAR 2000

2002 Kursinski A microwave occultation observing system optimized to characterize atmospheric water, temperature, and geopotential via absorption
Journal of Atmospheric and Oceanic Technology, *19* (12), 1897-1914

GPS Occultations from Mountain Top/Airplane

1999 Zuffada et al. A novel approach to atmospheric profiling with a mountain-based or airborne GPS receiver
J GEOPHY RES-ATMO 104 (D20): 24435-24447 OCT 27 1999

2002 Healy et al. Abel transform inversion of radio occultation measurements made with a receiver inside the Earth's atmosphere
ANNALES GEOPHYSICAE 20 (8): 1253-1256 AUG 2002

Ionosphere Sensing by GPS Occultations

1994 Hajj et al. Imaging the ionosphere with the Global Positioning System
INT J IMAG SYST TECH 5 (2): 174-& SUM 1994

1996 Leitinger et al. Ionosphere tomography with data from satellite reception of Global Navigation Satellite System signals and ground reception of Navy Navigation Satellite System signals
RADIO SCI 32 (4): 1657-1669 JUL-AUG 1997

1998 Rius et al. Analysis of ionospheric electron-density distribution from GPS/MET occultations
IEEE T GEOSCI REMOTE 36 (2): 383-394 MAR 1998

1998 Hajj et al. Ionospheric electron density profiles obtained with the Global Position…
RADIO SCI 33 (1): 175-190 JAN-FEB 1998

1999 Schreiner et al. Analysis and validation of GPS/MET radio occultation data in the ionosphere
RADIO SCI 34 (4): 949-966 JUL-AUG 1999

2000 Escudero et al. Ionospheric tomography using Orsted GPS measurements - Preliminary results
PHYS CHEM EARTH PT A 26 (3): 173-176 2001

2000 Hajj et al. COSMIC GPS Ionospheric Sensing and Space Weather
TERR ATMOS OCEAN SCI 11 (1): 235-272 MAR 2000

2001 Dymond & Thomas A technique for using measured ionospheric density gradients and GPS occ…
RADIO SCI 36 (5): 1141-1148 SEP-OCT 2001

2001 Tsai et al. Comparisons of GPS/MET retrieved ionospheric electron density and ground…
EARTH PLANETS SPACE 53 (3): 193-205 2001

2002 Igarashi et al. Application of radio holographic method for observation of altitude variations of the electron density in the mesosphere/lower thermosphere using GPS/MET radio occultation data
J ATMO SOL-TERR PHY 64 (8-11): 959-969 MAY-JUL 2002

2003 Pi et al. Estimation of E x B drift using a global assimilative ionospheric model: An observation system simulation experiment
Journal of Geophysical Research-Space Physics, *108* (A2), 2003.

2004 Hajj et al. Data assimilation of ground GPS total electron content into a physics-based ionospheric model by use of the Kalman filter
Radio Science, *39* (1)

2004 Wang et al. Development of the Global Assimilative Ionospheric Model
Radio Science, *39* (1)