
References

- Abidin HZ (1995) GPS and hydro-oceanographic surveying in Indonesia. *Int J Geomatics* 9(4):35–37
- Abou Beih O, Algarni D (1997) A proposed algorithm for geoid determination in Saudi Arabia using GPS measurements. *Aust Surveyor* 42(4):179–184
- Abramowitz M, Stegun IA (1965) Handbook of mathematical functions. Dover Publications, Inc., New York
- Afriamovich EL, Kosogorov EA, Leonovich LA (2000) The use of the international GPS network as the global detector (GLOBDET) simultaneously observing sudden ionospheric disturbance. *Earth Planets Space* 52(11):1077–1082
- Al-Haifi Y, Corbett S, Cross P (1997) Performance evaluation of GPS single-epoch on-the-fly ambiguity resolution. *J Inst Navig* 44,4:479–487
- Albertella A, Sacerdote F (1995) Spectral analysis of block averaged data in geopotential global model determination. *J Geodesy* 70,3:166–175
- Andersen OB (1994) M,2, and S,2, ocean tide models for the North Atlantic Ocean and adjacent seas from ERS-1 altimetry, Space at the service of our environment. In: Proceedings of the second ERS-1 symposium, Hamburg, 11–14 October 1993, Vol. 2., January 1994, Noordwijk, pp 789–794
- Andersen PH (1995) Status of the GEOSAT software after ten years of development and testing. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995, Springer-Verlag, Berlin, pp 310–314
- Andersen PH, Kristiansen O, Zarraoa N (1995) Analysis of data from the VLBI-GPS collocation experiment CONT94. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995, Springer-Verlag, Berlin, pp 315–319
- Angermann D, Becker M (2000) Untersuchungen zu Genauigkeit und systematischen Effekten in großräumigen GPS-Netzen am Beispiel von GEODYSSSEA. *ZfV* 125(3):88–95
- Angermann D, Baustert G, Klotz J (1995) The impact of IGS on the analysis of regional GPS-network. In: GPS Trends in Precise Terrestrial Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995, Springer-Verlag, Berlin, pp 35–41
- Armstrong AP, Collier PA (1996) GPS heighting: Experience in the Northern Territory. *Aust Surveyor* 41,1:59–63
- Artese G, Cefalo R, Vettore A (1997) Real time kinematic GPS to bathymetry. *Rep Geod* 5(28):77–87
- Ashby N, Spilker JJ (1996) Introduction to relativistic effects on the Global Positioning System. In: Parkinson BW, Spilker JJ (eds) Global Positioning System: Theory and applications, Vol. I, Chapter 18
- Ashkenazi V, Beamson G, Bingley R (1995) Monitoring absolute changes in mean sea level. In: Proceedings of the First Turkish International Symposium on Deformations “Istanbul-94”, Istanbul, September 5–9, pp 40–46
- Ashkenazi V, Park D, Dumville M (2000) Robot positioning and the global navigation satellite system. *Ind Robot* 27(6):419–426
- Augath W (1995) Zukünftige Konzepte für GPS-Netze. Schriftenreihe des Deutschen Vereins für Vermessungswesen 18:411–424
- Aw York Bin, Goh Pong Chai (1996) Improving cadastral survey controls using GPS surveying in Singapore. *Survey rev* 33:488–495
- Axelsson O (1994) Iterative Solution Methods. Cambridge University Press
- Ayres F (1975) Differential- und Integralrechnung, Schaum’s Outline. McGraw-Hill Book
- Baertlein H, Carlson B, Eckels R, Lyle S, Wilson S (2000) A high-performance, high-accuracy RTK GPS machine guidance system. *GPS Solutions* 3(3):4–11
- Baldi P, Bonvalot S, Briole P, Marsella M (2000) Digital photogrammetry and kinematic GPS applied to the monitoring of Vulcano Island, Aeolian Arc, Italy. *Geophys J Int* 142(3):801–811

- Balmino G, Schrama E, Sneeuw N (1996) Compatibility of first-order circular orbit perturbations theories: Consequences for cross-track inclination functions. *J Geodesy* 70,9:554–561
- Banyai L, Giannou M (1997) Comparison of Turbo-Rogue and Trimble SSI GPS receivers for ionospheric investigation under anti-spoofing. *ZfV* 3:136–142
- Bar-Sever YE (1996) A new model for GPS yaw attitude. *J Geodesy* 70:714–723
- Barthelmes F (1996) Die Wavelet-Transformation zur Zeitreihenanalyse. Erste Geodätische Woche, Stuttgart, 7.–12. Oktober 1996, 15 Blatt
- Bastos L, Landau H (1988) Fixing cycle slips in dual-frequency kinematic GPS-application using Kalman filtering. *Manuscr Geodaet* 13:249–256
- Bastos L, Osorio J, Hein G (1995) GPS derived displacements in the Azores Triple Junction Region. In: *GPS Trends in Precise Terrestrial Airborne, and Spaceborne Applications: 21st IUGG General Assembly*, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995, Springer-Verlag, Berlin, pp 99–104
- Bate RR, Mueller DD, White JE (1971) Fundamentals of astrodynamics. Dover, New York
- Bauer M (1994) Vermessung und Ortung mit Satelliten. Wichmann Verlag, Karslsruhe
- Bause F, Toelle W (1993) Programmieren mit C++, Version 3. Vieweg & Sohn, Verlagsgesellschaft mbH, Braunschweig
- Becker M, Angermann D, Nordin S, Reigber C, Reinhart E (2000) Das Geschwindigkeitsfeld in Südostasien aus einer kombinierten GPS Lösung der drei GEODYSSSEA Kampagnen von 1994 bis 1998. *ZfV* 125(3):74–80
- Berrocoso M, Garate J, Martin J (1996) Improving the local geoid with GPS. In: *Proceedings of the Techniques for local geoid determination, session G7 European Geophysical Society XXIst General Assembly* The Hague, The Netherlands, 6–10 May, 1996, Masala, pp 91–96
- Betti B, Crespi M, Marana B (1995) A new software for GPS data processing: Work in progress and preliminary results. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly*, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995, Springer-Verlag, Berlin, pp 320–324
- Beutler G (1994) GPS trends in precise terrestrial, airborne, and spaceborne applications. Springer-Verlag, Heidelberg
- Beutler G (1996) GPS satellite orbits. In Kleusberg A, Teunissen PJG (eds) *GPS for geodesy*. Springer-Verlag, Berlin
- Beutler G (1996) The GPS as a tool in global geodynamics. In: Kleusberg A, Teunissen PJG (eds) *GPS for geodesy*. Springer-Verlag, Berlin
- Beutler G, Neilan R (1997) International GPS service for geodynamics, scientific assembly of the International Association of Geodesy in conjunction with 28th Brazilian Congress of Cartography. Rio de Janeiro, 3–9 September 1997, 24 pp
- Beutler G, Weber R (1995) Der Internationale GPS Dienst für Geodynamik (IGS). Schriftenreihe des Deutschen Vereins für Vermessungswesen, Bd. 18, Stuttgart, pp 169–185
- Beutler G, Brockmann E, Gurtner W, Hugentobler U, Mervart L, Rothacher M, Verdun A (1994) Extended orbit modelling techniques at the CODE Processing Center of the IGS: Theory and initial results. *Manuscr Geodaet* 19:367–386
- Beutler G, Brockmann E, Hugentobler U (1996) Combining consecutive short arcs into long arcs for precise and efficient GPS orbit determination. *J Geodesy* 70,5:287–299
- Bian S (1996) Topography supported GPS leveling. *ZfV* 121,3:109–113
- Blackmer TM, Schepers JS (1996) Using DGPS to improve corn production and water quality. *GPS World* 7,3:44–52
- Blomenhofer H (1996) Untersuchungen zu hochpräzisen kinematischen DGPS-Echtzeitverfahren mit besonderer Berücksichtigung atmosphärischer Fehlereinflüsse. Neubiberg, 166 S
- Bock Y (1996) Reference systems. In: Kleusberg A, Teunissen PJG (eds) *GPS for geodesy*. Springer-Verlag, Berlin
- Bock Y (1996) Medium distance GPS measurements. In: Kleusberg A, Teunissen PJG (eds) *GPS for geodesy*. Springer-Verlag, Berlin
- Bock Y, Beutler G, Schaer S, Springer TA, Rothacher M (2000) Processing aspects related to permanent GPS arrays. *Earth Planets Space* 52(10):657–662
- Boey SS, Coombe LJ, Gerdan GP (1996) Assessing the accuracy of real time kinematic GPS positions for the purposes of cadastral surveying. *Aust Surveyor* 41,2:109–120
- Bona P (2000) Precision, cross correlation, and time correlation of GPS phase and code observations. *GPS Solutions* 4(2):3–13
- Borge TK, Forssell B (1994) A new real time ambiguity resolution strategy based on polynomial identification, In: *Proceedings of the International Symposium on Kinematic Systems in Geodesy, Geomatics and Navigation*, Banff, Canada, 30 August–2 September, pp 233–240
- Bouin M-N, Vigny C (2000) New constraints on Antarctic plate motion and deformation from GPS data. *J Geophys Res* 105(B12):28279–28293

- Braasch MS (1996) Multipath effects. Parkinson BW, Spilker JJ (eds) *Global Positioning System: Theory and applications*, Vol. I
- Bronstein IN, Semendjajew KA (1987) *Taschenbuch der Mathematik*. B. G. Teubner Verlagsgesellschaft, Leipzig, ISBN 3-322-00259-4
- Brouwer D, Clemence GM (1961) *Methods of celestial mechanics*. Academic Press, New York
- Brunner FK (1998) Advances in positioning and reference frames. Springer-Verlag, Heidelberg
- Brunner FK, Gu M (1991) An improved model for the dual frequency ionospheric correction of GPS observations. *Manuscr Geodaet* 16:205–214
- Brunner FK, Welsch WM (1993) Effect of the troposphere on GPS measurements. *GPS World* 4:42–51
- Bust GS, Coco D, Makela JJ (2000) Combined Ionospheric Campaign 1: Ionospheric tomography and GPS total electron content (TEC) depletions. *Geophys Res Lett* 27(18):2849–2852
- Campos MA, Krueger CP (1995) GPS kinematic real-time applications in rivers and train. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly*, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 222–225
- Cangahuala L, Muellerschoen R, Yuan D-N (1995) TOPEX/Poseidon precision orbit determination with SLR and GPS anti-spoofing data. In: *GPS Trends in Precise Terrestrial Airborne, and Spaceborne Applications: 21st IUGG General Assembly*, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 123–127
- Cannon ME, Lachapelle G (1995) Kinematic GPS trends: Equipment, methodologies and applications. In: *GPS Trends in Precise Terrestrial Airborne, and Spaceborne Applications: 21st IUGG General Assembly*, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 161–169
- Cannon E, Weisenburger S (2000) The use of multiple receivers for constraining GPS carrier phase ambiguity resolution. *Lighthouse* 57:7–18
- Cannon ME, Schwarz KP, Wong RVC (1986) Kinematic positioning with GPS: An analysis of road test. In: *Proceedings of the Fourth International Geodetic Symposium on Satellite Positioning*, Austin, Texas, April 28–May 2
- Cannon ME, Sun H, Owen T, Meindl M (1994) Assessment of a non-dedicated GPS receiver system for precise airborne attitude determination. In: *Proceedings of ION GPS-94, 7th International Technical Meeting of the Satellite Division of the Institute of Navigation*, Salt Lake City, Utah, September 20–23, Part 1. pp 645–654
- Cannon ME, Lachapelle G, Goddard TW (1997) Development and results of a precision farming system using GPS and GIS technologies. *Geomatica* 51,1:9–19
- Cannon ME, Lachapelle G, Szarmes M, Herbert J, Keith J, Jokerst S (1997) DGPS kinematic carrier phase signal simulation analysis for precise velocity and position determination. *Proceedings of ION NTM 97*, Santa Monica, CA
- Cardellach E, Behrend D, Ruffini G, Rius R (2000) The use of GPS buoys in the determination of oceanic variables. *Earth Planets Space* 52(11):1113–1116
- Casotto S, Zin A (2000) An assessment of the benefits of including GLONASS data in GPS-based precise orbit determination – I: S/A analysis. *Advances in the Astronautical Sciences* 105(1):237–256
- Celebi M (2000) GPS in dynamic monitoring of long-period structures. *Soil Dyn Earthq Eng* 20(5–8): 477–483
- Chang C-C (2000) Estimation of local subsidence using GPS and leveling data. *Surveying and Land Information Systems* 60(2):85–94
- Chen CS, Chen Y-J, Yeh T-K (2000) The impact of GPS antenna phase center offset and variation on the positioning accuracy. *Bull Geod Sci Affini* 59(1):73–94
- Chen D (1994) Development of a fast ambiguity search filtering (FASF) method for GPS carrier phase ambiguity resolution. *Reports of the Department of Geomatics Engineering of the University of Calgary*, Vol. 20071
- Chen D, Lachapelle G (1994) A comparison of the FASF and least-squares search algorithms for ambiguity resolution on the fly. In: *Proceedings of the International Symposium on Kinematic Systems in Geodesy, Geomatics and Navigation*, Banff, Canada, August 30–September 2, pp 241–253
- Chen X, Langley RB, Dragert H (1995) The Western Canada Deformation Array: An update on GPS solutions and error analysis. In: *GPS Trends in Precise Terrestrial Airborne, and Spaceborne Applications: 21st IUGG General Assembly*, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 70–74
- Chen Y-Q, Wang J-L (1996) Reliability measures for correlated observations. *ZfV* 121,5:211–219
- Chen Y-Q, Ding XL, Huang DF, Zhu JJ (2000) A multi-antenna GPS system for local area deformation. *Earth Planets Space* 52(10):873–876
- Chobotov VA (ed) (1991) *Orbital mechanics*. Published by AIAA, Washington
- Clark TA (1995) Low-cost GPS time synchronization: The “Totally Accurate Clock”. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly*, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 325–327

- Cohen CE (1996) Altitude determination. Parkinson BW, Spilker JJ (eds) Global Positioning System: Theory and applications, Vol. II
- Colombo OL (1984) Altimetry, orbits and tides. NASA Technical Memorandum 86180
- Colombo OL (1984) The global mapping of gravity with two satellites. Netherlands Geodetic Commission, Publications on Geodesy, Vol. 7, No. 3
- Colombo OL, Rizos C, Hirsch B (1995) Testing high-accuracy, long-range carrier phase DGPS in Australasia. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 226–230
- Colombo OL, Hernández-Pajares M, Juan JM, Sanz J, Talaya J (1999) Resolving carrier-phase ambiguities on the fly, at more than 100 km from nearest reference site, with the help of ionospheric topography. ION GPS 99 14–17, September 1999, pp 1635–1642
- Corbett SJ, Cross PA (1995) GPS single epoch ambiguity resolution. Survey rev 33(257):149–160
- Cox DB Jr., Brading JDW (2000) Integration of LAMBDA ambiguity resolution with Kalman filter for relative navigation of spacecraft. J Inst Navig 47(3):205–210
- Cross PA, Ramjattan AN (1995) A Kalman filter model for an integrated land vehicle navigation system. In: Proceedings of the 3rd international workshop on high precision navigation: High precision navigation 95. University of Stuttgart, April 1995, Bonn, pp 423–434
- Cui C (1990) Die Bewegung künstlicher Satelliten im anisotropen Gravitationsfeld einer gleichmäßig rotierenden starren Modellerde. Deutsche Geodätische Kommission, Reihe C: Dissertationen, Heft Nr. 357
- Cui C (1997) Satellite orbit integration based on canonical transformations with special regard to the resonance and coupling effects. München, 128 S
- Cui C, Lelgemann D (1995) Analytical dynamic orbit improvement for the evaluation of geodetic-geodynamic satellite data. J Geodesy 70:83–97
- Cui X, Yu Z, Tao B, Liu D (1982) Adjustment in surveying. Surveying Press, Peking, (in Chinese)
- Dach R, Dietrich R (2000) Influence of the ocean loading effect on GPS derived precipitable water vapor. Geophys Res Lett 27(18):2953–2956
- Dam T van, Larson KM, Wahr J, Gross S, Francis O (2000) Using GPS and gravity to infer ice mass changes in Greenland. EOS Trans. AGU 81(37):421, 426–427
- Darby DJ, Welsch WM (1995) Strain accumulation across and between geological faults in New Zealand – the Wellington GPS Project. In: Proceedings of the First Turkish International Symposium on Deformations “Istanbul-94”, Istanbul, Sept 5–9, pp 810–818
- Davis J, Herring T (1984) New atmospheric mapping function. Center of Astrophysics, Cambridge, Mass., Manuscript July 1984
- Davis JL, Cosmo ML, Elgered G (1995) Using the Global Positioning System to study the atmosphere of the Earth: Overview and prospects. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 233–242
- Davis P, Rabinowitz P (1984) Methods of numerical integration, 2nd Ed. Academic Press, INC
- Davis PJ (1963) Interpolation and approximation. Dover Publications Inc., New York
- Denker H (1995) Grossräumige Höhenbestimmung mit GPS- und Schwerfelddaten. Schriftenreihe des Deutschen Vereins für Vermessungswesen, Bd. 18, Stuttgart, pp 233–258
- Dick G (1997) Nutzung von GPS zur Bahnbestimmung niedrigfliegender Satelliten. GPS-Anwendungen und Ergebnisse '96: Beiträge zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam, pp 241–249
- Dick G, Gendt G (1997) GPS-Anwendungen und Ergebnisse '96: Beiträge zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam. Geodesia: Nederl. geod. t., Stuttgart
- Dierendonck AJ Van, Hegarty C (2000) The new L5 civil GPS signal. GPS World 11(9):64–71
- Dietrich R (1997) Untersuchung von vertikalen Krustendeformationen wegen wechselnder Eislasten in Grönland. GPS-Anwendungen und Ergebnisse '96: Beiträge zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam, pp 94–102
- Diggelen F (1998) GPS accuracy: Lies, damm lies, and statistics. GPS World 9,1:41–44
- Diggelen F, Martin W (1997) GPS + GLONASS RTK: A quantum leap in RTK performance. Int J Geomatics 11(11):69–71
- Ding X, Coleman R (1996) Multiple outlier detection by evaluating redundancy contributions of observations. J Geodesy 708:489–498
- Ding X, Coleman R (1996) Adjustment of precision metrology networks in three dimension. Survey rev 33,259:305–315
- Dittrich J, Kuehmstedt E, Richter B, Reinhart E (1997) Accurate positioning by low frequency (ALF) and other services for emission of DGPS correction data in Germany. Rep Geod 6(29):97–108

- Dodson AH, Shardlow PJ, Hubbard LCM (1995) Wet tropospheric effects on precise relative GPS height determination. *J Geodesy* 70(4):188–202
- Doodson AT (1928) The analysis of tidal observations. *Philos Tr R Soc S-A* 227:223–279
- Dow JM (1988) Ocean tides and tectonic plate motions from Lageos. Deutsche Geodätische Kommission, Reihe C, Dissertation, Heft Nr. 344
- Dow JM, Romay-Merino MM, Piriz R (1993) High precision orbits for ERS-1: 3-day and 35-day repeat cycles. In: Proceedings of the Second ERS-1 symposium: Space at the service of our environment, Hamburg, 11–14 October 1993, Vol. 2, Jan. 1994, Noordwijk, pp 1349–1354
- Dragert H, James TS, Lambert A (2000) Ocean loading corrections for continuous GPS: A case study at the Canadian coastal site Holberg. *Geophys Res Lett* 27(14):2045–2048
- Drewes H (1996) German geodetic GPS projects. In: Proceedings of the Fifth International Information Subcommittee European Meeting, Frankfurt am Main, Dec. 3–4, 1996, pp 169–184
- Drewes H (1996) Kinematische Referenzsysteme für die Landesvermessung. *ZfV* 121(6):277–285
- Drewes H (1997) Realisierung des geozentrischen Referenzsystems für Südamerika (SIRGAS). GPS-Anwendungen und Ergebnisse '96: Beiträge zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam, pp 54–63
- Drewes H, Kaniuth K, Stuber K (1995) The CASA'93 GPS campaign for crustal deformation research along the South Caribbean plate boundary. *J Geodyn* 20,2:129–144
- El-Rabbany A, Kleusberg A (1995) On stochastic modelling of GPS measurements errors. In: Proceedings of the First Turkish International Symposium on Deformations "Istanbul-94", Istanbul, Sept. 5–9, pp 149–160
- Elosequi P, Davis JL, Jaldehag RTK (1995) Geodesy using the global positioning system: The effects of signal scattering on estimates of site position. *J Geophys Res* 100(B6):9921–9934
- Emardson TR, Jarlemark POJ (1999) Atmospheric modelling in GPS analysis and its effect on the estimated geodetic parameters. *J Geodesy* 73:322–331
- Engelhardt G, Mikolaiski H (1996) Concepts and results of the GPS data processing with Bernese and GIPSY Software. In: German Contributions to the SCAR 95 Epoch Campaign, 1996: The Geodetic Antarctic Project GAP95, Muenchen, pp 37–51
- Ephishov II, Baran LW, Shagimuratov II, Yakimova GA (2000) Comparison of total electron content obtained from GPS with IRI. *Phys Chem Earth* 25C(4):339–342
- Euler H-J (1995) Statische/Kinematische Echtzeitvermessung mit GPS. Schriftenreihe des Deutschen Vereins für Vermessungswesen, Bd. 18, Stuttgart, pp 271–286
- Euler H-J, Landau H (1992) Fast GPS ambiguity resolution on-the-fly for real-time applications. In: Proceedings of 6th Int. Geod. Symp. on Satellite Positioning. Columbus, Ohio, pp 17–20
- Exertier P, Bonnefond P (1997) Analytical solution of perturbed circular motion: Application to satellite geodesy. *J Geodesy* 71(3):149–159
- Farrell WE (1972) Deformation of the Earth by surface loads. *Rev Geophys Space Ge* 10(3):761–797
- Faruqi FA, Turner KJ (2000) Extended Kalman filter synthesis for integrated global positioning/inertial navigation systems. *Appl Math Comput* 115(2–3):213–227
- Featherstone W, Dentith M, Kirby J (1998) Strategies for the accurate determination of orthometric heights from GPS. *Survey rev* 34(267):278–296
- Feltens J (1991) Nichtgravitative Störeinflüsse bei der Modellierungen von GPS-Erdumlaufbahnen. DGK, Reihe C, Heft 371, Verlag der Bayerischen Akademie der Wissenschaften
- Feng D, Herman B, Exner M (1995) Preliminary results from the GPS/MET atmospheric remote sensing experiment. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 139–143
- Feng Y, Kubik K (1997) On the internal stability of GPS solutions. *J Geodesy* 72:1–10
- Filip A (1998) Signals of change: Czech rail's DGPS train locator trials. *GPS World* 9(5):34–36, 39–40, 42–43
- Fliegel HF, Gallini TE, Swift ER (1992) Global Positioning System radiation force model for geodetic applications. *J Geophys Res* 97(B1):559–568
- Flores A, Escudero A, Sedo MJ, Rius A (2000) A near real time system for tropospheric monitoring using GPS hourly data. *Earth Planets Space* 52(10):681–684
- Forsberg R, Tscherning C (1997) Topographic effects in gravity field modelling for BVP, Geodetic boundary value problems in view of the one centimeter geoid. Springer-Verlag, Berlin, pp 241–272
- Forsberg R, Olesen AV, Timmen L, Xu GC, Bastos L, Hehl K, Solheim D (1998) Airborne gravity in Skagerrak and elsewhere: The AGMASCO project and a nordic outlook. In: Proceedings NKG meeting Gyle, May 1998
- Forsberg R, Keller K, Nielsen CS, Gundestrup N, Tscherning CC, Madsen SN, Dall J (2000) Elevation change measurements of the Greenland Ice Sheet. *Earth Planets Space* 52(11):1049–1053

- Fry WG (1997) GPS flies high in Midwest flood study: The Mississippi River Project demonstrates viability of large-area airborne GPS-controlled mapping. *EOM: mag. geogr, mapp, Earth inf* 6(1):28–31
- Galas R, Reigber C (1997) Status of the IGS stations provided by GFZ. *International GPS Service for Geodynamics: 1996 annual report*, Pasadena, pp 393–396
- Galas R, Reigber C, Baustert G (1995) Permanent betriebene GPS-Stationen in globalen und regionalen Netzen. *ZfV* 120:9:431–438
- Gallimore J, Maini A (2000) Galileo: The public-private partnership. *GPS World* 11(9):58–63
- Gao Y, McLellan J, Schleppé J (1998) Integrating GPS with barometry for high-precision real-time kinematic seismic survey. *Survey. Land Inf Syst* 58(2):115–119
- Garrison JL, Katzberg SJ (2000) The application of reflected GPS signals to ocean remote sensing. *Remote Sens Environ* 73(2):175–187
- Ge LL, Han SW, Rizos C (2000) Multipath mitigation of continuous GPS measurements using an adaptive filter. *GPS Solutions* 4(2):19–30
- Ge M, Calais E, Haase J (2000) Reducing satellite orbit error effects in near real-time GPS zenith tropospheric delay estimation for meteorology. *Geophys Res Lett* 27(13):1915–1918
- Gehlich U, Lelegmann D (1997) Zur Parametrisierung von GPS-Phasenmessungen. *ZfV* 6:262–270
- Geiger A, Hirter H, Cocard M (1995) Mitigation of tropospheric effects in local and regional GPS networks. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 263–267
- Gendt G (1997) Analysen der IGS-Daten und Ergebnisse, GPS-Anwendungen und Ergebnisse '96: Beiträge zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam, 1997, Stuttgart, pp 43–53
- Gendt G, Dick G, Reigber C (1995) Global plate kinematics estimated by GPS data of the IGS core network. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 30–34
- Georgiadou Y, Doucet KD (1990) The issue of selective availability. *GPS World* 1(5):53–56
- Gianniu M (1996) Genauigkeitssteigerung bei kurzzeit-statischen und kinematischen Satellitenmessungen bis hin zur Echtzeitanwendung. DGK, Reihe C, Heft 458, Verlag der Bayerischen Akademie der Wissenschaften
- Gili JA, Corominas J, Rius J (2000) Using Global Positioning System techniques in landslide monitoring. *Eng Geol* 55(3):167–192
- Gleason DM (1996) Avoiding numerical stability problems of long duration DGPS/INS Kalman filters. *J Geodesy* 70(5):263–275
- Goad C (1996) Single-site GPS models. In: Kleusberg A, Teunissen PJG (eds) *GPS for geodesy*. Springer-Verlag, Berlin
- Goad C (1996) Short distance GPS models. In: Kleusberg A, Teunissen PJG (eds) *GPS for geodesy*. Springer-Verlag, Berlin
- Goad C, Remondi B (1984) Initial relative positioning results using global positioning system. *B Geod* 58:193–200
- Goad C, Yang M (1997) A new approach to precision airborne GPS positioning for photogrammetry. *Photogramm Eng Rem S* 63(9):1067–1077
- Goad C, Dorota A, Brzezinska G, Yang M (1996) Determination of high-precision GPS orbits using triple differencing technique. *J Geodesy* 70:655–662
- Goerres B, Campbell J (1998) Bestimmung vertikaler Punktbewegungen mit GPS. *ZfV* 123(7):222–230
- Goodhue J (1997) Experiments aloft: Balloon-borne payloads reach near space. *GPS World* 8(9):34–42
- Gotthardt E (1978) *Einführung in die Ausgleichungsrechnung*. Herbert Wichmann Verlag, Karlsruhe
- Graas FV, Braasch MS (1996) Selective availability. In: Parkinson BW, Spilker JJ (eds) *Global Positioning System: Theory and applications*, Vol. I, Chapter 17
- Grafarend EW (2000) Mixed integer-real valued adjustment (IRA) problems: GPS initial cycle ambiguity resolution by means of the LLL algorithm. *GPS Solutions* 4(2):31–44
- Grafarend E, Ardalan AW (1997) An estimate in the Finnish Height Datum N60, epoch 1993.4, from twenty-five GPS points of the Baltic Sea Level Project. *J Geodesy* 71(11):673–679
- Groten E (1979) *Geodesy and the Earth's gravity field*, Vol. I: Principles and conventional methods. Dümmler-Verlag, Bonn
- Groten E (1980) *Geodesy and the Earth's gravity field*, Vol. II: Geodynamics and advanced methods. Dümmler-Verlag, Bonn
- Groten E (1995) The problem of heights in new GPS-networks. *Allgemeine Vermessungsnachrichten* 102(8/9):295–296
- Guinn J, Muellerschoen R, Cangahuala L (1995) TOPEX/Poseidon precision orbit determination using combined GPS, SLR and DORIS. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 128–132

- Gurtner W (1994) RINEX: The receiver independent exchange format. *GPS World* 5(7):48–52
- Gurtner W (1994) The use of permanent GPS stations for the maintenance of the European Reference Frame. In: Report on the Symposium of the IAG Subcommission for the European Reference Frame (EUREF) held in Warsaw 8–11 June 1994. Reports of the EUREF Technical Working Group, München, pp 158–161
- Gurtner W, Mader G (1990) Receiver independent exchange format version 2. *GPS Bulletin* 3(3):1–8
- Gurtner W, Boucher C, Bruyninx C (1997) The use of the IGS/EUREF permanent network for EUREF densification campaigns. In: Symposium of the IAG Subcommission for Europe (EUREF), Sofia, Bulgaria, June 4–7, 1997, 3 pp
- Haines BJ, Christensen EJ, Guinn JR (1995) Observations of TOPEX/Poseidon orbit errors due to gravitational and tidal modeling errors using the Global Positioning System. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 133–138
- Hajj GA, Kursinski ER, Bertiger WI (1995) Initial results of GPS-LEO occultation measurements of Earth's atmosphere obtained with the GPS-MET experiment. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 144–153
- Hamilton GS, Whillans IA (2000) Point measurements of mass balance of the Greenland Ice Sheet using precision vertical Global Positioning System (GPS) surveys. *J Geophys Res* 105(B7): 16295–16301
- Han S (1997) Carrier phase-based long-range GPS kinematic positioning. School of Geomatic Engineering, University of new south Wales, Sydney NSW 2052, Australia, Unisurv Report S-49
- Han S (1997) Quality-control issues relating to instantaneous ambiguity resolution for real-time GPS kinematic positioning. *J Geodesy* 71(6):351–361
- Han S (2000) The GPS toolbox: An implementation algorithm for ambiguity decorrelation. *GPS Solutions* 4(2):76–77
- Han S, Rizos C (1995) On-the-fly ambiguity resolution for long range GPS kinematic positioning. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 290–294
- Han S, Rizos C (1996) Validation and rejection criteria for integer least-squares estimation. *Survey rev* 33(260):375–382
- Han S, Rizos C (1996) Improving the computational efficiency of the ambiguity function algorithm. *J Geodesy* 70(6):330–341
- Han S, Rizos C (1997) Comparing GPS ambiguity resolution techniques. *GPS World* 8(10):54–61
- Han S, Rizos C (2000) GPS multipath mitigation using FIR filters. *Survey rev* 35(277):487–498
- Han S, Rizos C (2000) An instantaneous ambiguity resolution technique for medium-range GPS kinematic positioning. *J Inst Navig* 47(1):17–31
- Han S, Rizos C (2000) Airborne GPS kinematic positioning and its application to oceanographic mapping. *Earth Planets Space* 52(10):819–824
- Hatanaka Y, Tsuji H, Iimura Y, Kobayashi K, Morishita H (1995) Application of GPS kinematic method for detection of crustal movements with high temporal resolution. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 105–112
- Hatch RR (1996) The promise of a third frequency, *GPS World*, 7(1996)5, 55–58
- Hay C, Wong J (2000) Enhancing GPS: Tropospheric delay prediction at the Master control Station. *GPS World* 11(1):56–62
- Heck B (1995) Grundlagen der SatellitenGeodäsie. Schriftenreihe des Deutschen Vereins für Vermessungswesen, Bd. 18, Stuttgart, pp 10–31
- Heck B (1995) Grundlagen der erd- und himmelfesten Referenzsysteme. Schriftenreihe des Deutschen Vereins für Vermessungswesen, Bd. 18, Stuttgart, pp 138–153
- Hefty J, Rothacher M, Springer T, Weber R, Beutler G (2000) Analysis of the first year of Earth rotation parameters with a sub-daily resolution gained at the CODE processing center of the IGS. *J Geodesy* 74(6):479–487
- Hehl K, Xu GC (1995) Nutzung von GPS für die Fluggravimetrie am GFZ. ZfV, Heft 9, pp 460–468
- Hehl K, Xu GC, Fritsch J (1995) Results from field tests of an airborne gravity meter system. In: Proceedings of IUGG XXI General Assembly, IAG meeting at Boulder, Colorado, USA, July 1995, IAG Symposium G4, pp 169–174
- Hein GW (2000) From GPS and GLONASS via EGNOS to Galileo. Position and navigation in the third millennium. *GPS Solutions* 3(4):39–47
- Hein GW, Riedl B (1995) High precision deformation monitoring using differential GPS. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 180–184

- Hein GW, Eisfeller B, Pielmeier J (1995) Developments in airborne "high precision" digital photo flight navigation in "realtime". In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 175–179
- Heiskanen WA, Moritz H (1967) Physical geodesy. W. H. Freeman and company, San Francisco and London
- Heitz S (1988) Coordinates in geodesy. Springer-Verlag, Berlin
- Hernández-Pajares M, Juan JM, Sanz J, Colombo OL (2000) Application of ionospheric tomography to real-time GPS carrier-phase ambiguities resolution, at scales of 400–1 000 km and with high geomagnetic activity. *Geophys Res Lett* 27(13):2009–2012
- Herrick S (1972) Astrodynamics, Vol. II. Van Nostrand Reinhold, London
- Hess D, Keller W (1999) Gradiometrie mit GRACE Teil I, Fehleranalyse künstlicher Gradiometerdaten. *ZfV* 5:137–144
- Hess D, Keller W (1999) Gradiometrie mit GRACE Teil II, Simulationsstudie. *ZfV* 7:205–211
- Highsmith D, Axelrad P (1999) Relative state estimation using GPS flight data from co-orbiting space-craft. *ION GPS '99*, 14–17 September 1999, pp 401–409
- Hiller W, Lauterbach P, Wlaka M (1997) Seeking sovereignty: A European navigation satellite system. *GPS World* 8(9):56–60
- Hirahara K (2000) Local GPS tropospheric tomography. *Earth Planets Space* 52(11):935–939
- Hofmann-Wellenhof B, Lichtenegger H, Collins J (1997) GPS theory and practice. Springer-Press, Wien
- Holdridge DB (1967) An alternate expression for light time using general relativity. *JPL Space Program Summary* 37–48, III, pp 2–4
- Hopfield HS (1969) Two-quartic tropospheric refractivity profile for correcting satellite data. *J Geophys Res* 74(18):4487–4499
- Hopfield HS (1970) Tropospheric effect on electromagnetically measured ranges: Prediction from surface weather data. Applied Physics Laboratory, Johns Hopkins University, Baltimore, MD, July 1970
- Hopfield HS (1972) Tropospheric range error parameters – further studies. Applied Physics Laboratory, Johns Hopkins University, Baltimore, MD, June 1972
- Horvath I, Essex EA (2000) Using observations from the GPS and TOPEX satellites to investigate night-time TEC enhancements at mid-latitudes in the southern hemisphere during a low sunspot number period. *J Atmos Sol-Terr Phy* 62(5):371–391
- Hostetter GH (1987) Handbook of digital signal processing. Engineering Applications, Academic Press, Inc.
- Hotine M (1991) Differential geodesy. Springer-Verlag, Berlin
- Huber PJ (1964) Robust estimation of a location parameter. *Ann Math Stat* 35:73–101
- Hünerbein K von, Hamann HJ, Rüter E, Wiltschko W (2000) A GPS-based system for recording the flight paths of birds. *Naturwissenschaften* 87(6):278–279
- Huffman AC, Kalinec JA, Maiden JD (1995) GPS as a location tool for electromagnetic surveys. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 268–271
- Ifadis IM (2000) A new approach to mapping the atmospheric effects for GPS. *Earth Planets Space* 52(10):703–708
- Ihde J (1996) Geoidbestimmung unter Nutzung von GPS und Nivellement. Erste Geodätische Woche, Stuttgart, 7.–12. Oktober 1996, 6 Blatt
- Ince CD, Sahin M (2000) Real-time deformation monitoring with GPS and Kalman Filter. *Earth Planets Space* 52(10):837–840
- ION, The Institute of Navigation. Proceedings of ION GPS-91, 92, 93, 94, 95, 96, 97, 98, 99, 00
- Jakowski N, Sardon E, Engler E (1995) About the use of GPS measurements for ionospheric studies. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 248–252
- Jazwinski AH (1970) Stochastic processes and filtering theory. In: Mathematics in science and engineering, Vol. 64. Academic Press, New York and London
- Jekeli C, Garcia R (1997) GPS phase accelerations for moving – base vector gravimetry. *J Geodesy* 71:630–639
- Jensen A (1999) Influences of references on precise static/kinematic GPS positioning. (in prep.)
- Jin X-X (1995) A recursive procedure for computation and quality control of GPS differential corrections. Delft University of Technology, Faculty Geod. Engin., Delft Geodetic Computing Centre, Delft, 83 S
- Jin X-X, Jong K de, Cees D (1996) Relationship between satellite elevation and precision of GPS code observations. Leipzig, 13 S

- Jong K de (2000) Minimal detectable biases of cross-correlated GPS observations. *GPS Solutions* 3(3): 12–18
- Jong K de, Teunissen PJG (2000) Minimal detectable biases of GPS observations for a weighted ionosphere. *Earth Planets Space* 52(10):857–862
- Jonge P de, Tiberius C (1995) Integer ambiguity estimation with the LAMBDA method. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 280–284
- Jong PJ de (1998) A processing strategy of the application of the GPS in networks. PhD thesis, Netherlands Geodetic Commission, Delft, The Netherlands
- Jonkman NF, Jong K de (2000) Integrity monitoring of IGEX-98 data, Part I: Availability. *GPS Solutions* 3(4):10–23
- Jonkman NF, Jong K de (2000) Integrity monitoring of IGEX-98 data, Part II: Cycle slip and outlier detection. *GPS Solutions* 3(4):24–34
- Jonkman NF, Jong K de (2000) Integrity monitoring of IGEX-98 data, Part III: Broadcast navigation message validation. *GPS Solutions* 4(2):45–53
- Joosten J (2000) The GPS integer least-squares statistics. *Phys Chem Earth* 25(A9–A11):687–692
- Joosten P, Tiberius C (2000) Fixing the ambiguities. Are you sure they're right? *GPS World* 11(5):46–51
- Kaczorowski M (1995) Calculation of the Green's loading functions. Part 1: Theory. *Artificial Satellites, Journal of Planetary Geodesy* 30(1):77–93
- Kälber S, Jäger R, Schwäble R (2000) A GPS-based online control and alarm system. *GPS Solutions* 3(3):19–25
- Kammeyer P (2000) A UT1-like quantity from analysis of GPS orbit planes. *Celest Mech Dyn Astr* 77(4):241–272
- Kamp PD van (1967) Principles of astrometry. W. H. Freeman and Company, San Francisco and London
- Kang Z (1998) Präzise Bahnbestimmung niedrigfliegender Satelliten mittels GPS und die Nutzung für die globale Schwerefeldmodellierung. Scientific Technical Report STR 98/25, GFZ Potsdam
- Kaniuth K, Kleuren D, Tremel H (1998) Sensitivity of GPS height estimates to tropospheric delay modelling. *Allgemeine Vermessungsnachrichten* 105(6):200–207
- Kaniuth K, Kleuren D, Tremel H, Schlueter W (1998) Elevationabhängige Phasenzentrumsvariationen geodätischer GPS-Antennen. *ZfV* 10:320–325
- Katzberg SJ, Garrison JL (1996) Utilizing GPS to determine ionospheric delay over the ocean. NASA Technical Memorandum TM-4750, NASA Langley Research Center
- Kaula WM (1966) Theory of satellite geodesy. Blaisdell Publishing Company
- Khan SA (1999) Ocean loading tide effects on GPS positioning. MSc. thesis, Copenhagen University
- Khan SA, Tscherning CC (2001) Determination of semi-diurnal ocean tide loading constituents using GPS in Alaska. *Geophys Res Lett* 28(11):2249–2252
- Kelley K, Bologlu A (1995) DGPS on the waterfront: tracking cargo and equipment in maritime terminals. *GPS World* 6(9):62–71
- Keong J, Lachapelle G (2000) Heading and pitch determination using GPS/GLONASS. *GPS Solutions* 3(3):26–36
- Kim D, Langley RB (2000) A search space optimization technique for improving ambiguity resolution and computational efficiency. *Earth Planets Space* 52(10):807–812
- King M, Coleman R, Morgan P (2000) Treatment of horizontal and vertical tidal signals in GPS data: A case study on a floating ice shelf. *Earth Planets Space* 52(11):1043–1047
- King RW, Masters EG, Rizos C, Stoltz A, Collins J (1987) Surveying with Global Positioning System. Dümmeler-Verlag, Bonn
- Kistler M, Geiger A (2000) GPS am Seil herunterlassen: das Global Positioning System im Dienste des Seilbahnwesens. *Vermess Photogramm Kulturtech* 98(7):441–445
- Kleusberg A (1995) Mathematics of attitude determination with GPS. *GPS World*, 6(9):72–78
- Kleusberg A, Teunissen PJG (eds) (1996) GPS for geodesy. Springer-Verlag, Berlin
- Klobuchar JA (1996) Ionospheric effects on GPS. In: Parkinson BW, Spilker JJ (eds) *Global Positioning System: Theory and applications*, Vol. I, Chapter 12
- Klotz J, Angermann D, Reinking J (1995) Großräumige GPS-Netze zur Bestimmung der rezenten Kinematik der Erde. *ZfV* 120(9):449–460
- Knickmeyer ET, Knickmeyer EH, Nitschke M (1996) Zur Auswertung kinematischer Messungen mit dem Kalman-Filter. *Schriftenreihe des Deutschen Vereins für Vermessungswesen*, Bd. 22, Stuttgart, pp 141–166
- Knudsen P, Andersen O (1997) Global marine gravity and mean sea surface from multi mission satellite altimetry. *Scientific Assembly of the International Association of Geodesy in conjunction with 28th Brazilian Congress of Cartography; Rio de Janeiro, 3–9 September 1997*, 4 pp
- Knudsen P, Olsen H, Xu G (1999) GPS-altimetry tests – Measuring GPS signal reflected from the Earth surface. Poster on the 22nd IUGG General Assembly, IAG Symposium

- Knudsen P, Andersen O, Khan SA, Hooyer JL (2000) Ocean tide effects on GRACE gravimetry. IAG Symposia, (in press)
- Koch KR (1980) Parameterschätzung und Hypothesentests in linearen Modellen. Dümmler-Verlag, Bonn
- Koch KR (1988) Parameter estimation and hypothesis testing in linear models. Springer-Verlag, Berlin
- Koch KR (1996) Robuste Parameterschätzung. Allgemeine Vermessungsnachrichten 103(1):1–18
- Koch KR, Yang Y (1998) Konfidenzbereiche und Hypothesentests für robuste Parameterschätzungen. ZfV 123(1):20–26
- Koch KR, Yang Y (1998) Robust Kalman filter for rank deficient observation model. J Geodesy 72: 436–441
- Komjathy A, Langley RB, Vejrazka F (1995) Assessment of two methods to provide ionospheric range error corrections for single-frequency GPS users. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 253–257
- Komjathy A, Garrison J, Zavorotny V (1999) GPS: A new tool for ocean science. GPS World 10(4):50–56
- Komjathy A, Zavorotny VU, Axelrad P, Born GH, Garrison JL (2000) GPS signal scattering from sea surface: Wind speed retrieval using experimental data and theoretical model. Remote Sens Environ 73(2):162–174
- Konig R, Schwintzer P, Bode A (1996) GFZ-1: A small laser satellite mission for gravity field model improvement. Geophys Res Lett 23(22):3143–3146
- Kraus JD (1966) Radio astronomy. McGraw-Hill Book Company
- Kristiansen O (1995) Experiences with high precision GPS processing in Norway. Rep Finnish Geod Inst 4:77–84
- Kuang D, Rim HJ, Schutz BE (1996) Modeling GPS satellite attitude variation for precise orbit determination. J Geodesy 70(9):572–580
- Kuang D, Rim HJ, Schutz BE, Abusali PAM (1996) Modeling GPS satellite attitude variation for precise orbit determination. J Geodesy 70:572–580
- Kumar M (1997) Time-invariant bathymetry: A new concept to define and survey it using GPS. In: Proceedings of Fourteenth United Nations Regional Cartographic Conference for Asia and the Pacific, Bangkok, 3–7 February 1997. Bangkok, 4 pp
- Lachapelle G (1995) Post-mission GPS absolute kinematic positioning at one-metre accuracy level. Int J Geomatics 9(1):37–39
- Lachapelle G, Cannon ME, Qiu W, Varner C (1996) Precise aircraft single-point positioning using GPS post-mission orbits and satellite clock corrections. J Geodesy 70:562–571
- Lambeck K (1988) Geophysical geodesy – The slow deformations of the Earth. Oxford Science Publications
- Lambert A, Pagiatakis SD, Billyard AP, Dragert H (1988) Improved ocean tide loading correction for gravity and displacement: Canada and northern United States. J Geophys Res 103(B12):30231–30244
- Landau H (1988) Zur Nutzung des Global Positioning Systems in Geodäsie und Geodynamik: Modellbildung, Software-Entwicklung und Analyse. Universität der Bundeswehr München, Studiengang Vermessungswesen, Schriftenreihe, Heft 36
- Landspersky D, Mervart L (1997) A contribution to the study of modelling of the troposphere biases of GPS observations with high accuracy. In: Proceedings of the EGS symposium G14 'Geodetic and Geodynamic programmes of the CEI': 22 General Assembly of the EGS, Vienna, Austria, 21–25 April 1997. Warszawa, pp 207–211
- Langley RB (1996) Propagation of the GPS signals. In: Kleusberg A, Teunissen PJG (eds) GPS for geodesy. Springer-Verlag, Berlin
- Langley RB (1996) GPS receivers and the observables. In: Kleusberg A, Teunissen PJG (eds) GPS for geodesy. Springer-Verlag, Berlin
- Langley RB (1997) GLONASS: Review and update. GPS World 8(7):46–51
- Langley RB (1997) The GPS error budget. GPS World 8(3):51–56
- Langley RB (1998) Propagation of the GPS signals. In: Kleusberg A, Teunissen PJG (eds) GPS for geodesy. Springer-Verlag, Berlin
- Langley RB (2000) GPS, the ionosphere, and the solar maximum. GPS World 11(7):44–49
- Langley RB (2000) Navigation 101: Basic navigation with a GPS receiver. GPS World 11(10):50–54
- Lapucha D (1994) Real-time centimeter-accuracy positioning with on-the-fly carrier phase ambiguity resolution. Rep Geod 1:52–59
- Lechner W (1995) Telemetrikkonzepte für die GPS-unterstützte Echtzeitvermessung. Schriftenreihe des Deutschen Vereins für Vermessungswesen, Bd. 18, pp 260–286
- Lee J-T, Mezera DF (2000) Concerns related to GPS-derived geoid determination. Survey rev 35(276):379–397
- Lee YC, O’Laughlin DG (2000) Performance analysis of a tightly coupled GPS/Inertial system for two integrity monitoring methods. J Inst Navig 47(3):175–189

- Leick A (1995) GPS satellite surveying. John Wiley & Sons Ltd., New York
- Leinen S (1997) Hochpräzise Positionierung über große Entfernung und in Echtzeit mit dem Global Positioning System. DGK, Reihe C, Heft 472, Verlag der Bayerischen Akademie der Wissenschaften
- Lelgemann D (1983) A linear solution of equation of motion of an Earth-orbiting satellite based on a Lie-series. *Celestial Mech* 30:309
- Lelgemann D (1996) Geodesy im Weltraumzeitalter. *Dtsch Geod Komm* 25:59–77
- Lelgemann D (2002) Lecture notes of geodesy
- Lelgemann D, Petrovic S (1997) Bemerkungen über den Höhenbegriff in der Geodesy. *ZfV* 122(11): 503–509
- Lelgemann D, Xu GC (1991) Zur Helmert-Transformation von terrestrischen und GPS-Netzen. *ZfV* (1)
- Leroy E (1995) GPS real-time levelling on the world's longest suspension bridge. *Int J Geomatics* 9(8):6–8
- Levine J (2001) GPS and the legal traceability of time. *GPS World* 12(1):52–58
- Li H, Xu GC, Xue H, Zhao H, Chen J, Wang G (1999) Design of GPS application program. Science Press, Peking, ISBN 7-03-007204-9/TP.1049, 337 p (in Chinese and in C)
- Lightsey EG, Blackburn GC, Simpson JE (2000) Going up: A GPS receiver adapts to space. *GPS World* 11(9):30–34
- Linkwitz K, Hangleiter U (eds) (1995) High precision navigation 95. Dümmler-Verlag, Bonn
- Liu D, Liu J, Liu G (1993) The three-dimensional combined adjustment of GPS and terrestrial surveying data. *Acta Geod Cartogr Sinica* 41–54 (select. papers Engl. ed.)
- Liu DJ, Shi YM, Guo JJ (1996) Principle of GPS and its data processing. TongJi University Press, Shanghai, (in Chinese)
- Liu L, Zhao D (1979) Orbit theory of the Earth satellite. Nanjing University Press, (in Chinese)
- Liu M, Yang Y, Stein S, Zhu S, Engeln J (2000) Crustal shortening in the Andes: Why do GPS rate differ from geological rates? *Geophys Res Lett* 27(18):3005–3008
- Ludwig R (1969) Methoden der Fehler- und Ausgleichsrechnung. Vieweg & Sohn, Braunschweig
- Mackenzie R, Moore P (1997) A geopotential error analysis for a non planar satellite to satellite tracking mission *J Geodesy* 71(5):262–272
- Mackie JB (1985) The elements of astronomy for surveyors. Charles Griffin & Company Ltd.
- Mader GL (1995) Kinematic and rapid static (KARS) GPS positioning: Techniques and recent experiences. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 170–174
- Madsen FB, Madsen F (1994) Realization of the EUREF89 reference frame in Denmark. Report on the Symposium of the IAG Subcommission for the European Reference Frame (EUREF) held in Warsaw 8–11 June 1994. Reports of the EUREF Technical Working Group, Muenchen, pp 270–274
- Manning J, Johnston G (1995) A fiducial GPS network to monitor the motion of the Australien plate. In: *Proceedings of the First Turkish International Symposium on Deformations "Istanbul-94"*, Istanbul, Sept. 5–9, 1995, Istanbul, pp 85–89
- Masreliez CJ, Martin RD (1977) Robust Bayesian estimation for the linear model and robustifying the Kalman filter. *IEEE T Automat Contr AC-22:361–371*
- McCarthy DD (1996) International Earth Rotation Service. IERS conventions, Paris, 95 p
- McCarthy DD, Luzum BJ (1995) Using GPS to determine Earth orientation. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 52–58
- Meeus J (1992) Astronomische Algorithmen. Johann Ambrosius Barth
- Melchior P (1978) The tides of the planet Earth. Pergamon Press
- Merbart L (1995) Ambiguity resolution techniques in geodetic and geodynamic applications of the Global Positioning System. Dissertation an der Philosophisch-naturwissenschaftlichen Fakultät der Universität Bern
- Mertikas SP, Rizos C (1997) On-line detection of abrupt changes in the carrier-phase measurements of GPS. *J Geodesy* 71(8):469–482
- Mervart L, Beutler G, Rothacher M (1995) The impact of ambiguity resolution on GPS orbit determination and on global geodynamics studies. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 285–289
- Michel GW, Becker M, Angermann D, Reigber C, Reinhardt E (2000) Crustal motion in E- and SE-Asia from GPS measurements. *Earth Planets Space* 52(10):713–720
- Miller KM (2000) A review of GLONASS. *Hydrographic Journal* 98:15–21
- Mireault Y, Kouba J, Lahaye F (1995) IGS combination of precise GPS satellite ephemerides and clock. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 14–23

- Mitchell S, Jackson B, Cubbedge S (1996) Navigation solution accuracy from a spaceborne GPS receiver. *GPS World*, 7(1996)6, 42, 44, 46–48, 50
- Mohamed AH, Schwarz KP (1999) Adaptive Kalman filtering for INS/GPS. *J Geodesy* 73:193–203
- Montenbruck O (1989) Practical Ephemeris calculations. Springer-Verlag, Heidelberg
- Moore T, Zhang K, Close G, Moore R (2000) Real-time river level monitoring using GPS heighting. *GPS Solutions* 4(2):63–67
- Moreau MC, Axelrad P, Garrison JL, Long A (2000) GPS receiver architecture and expected performance for autonomous navigation in high earth orbits. *J Inst Navig* 47(3):191–204
- Moritz H (1980) Advanced physical geodesy. Herbert Wichmann Verlag, Karlsruhe
- Mueller II (1964) Introduction to satellite geodesy. Frederick Ungar Publishing Co.
- Murakami M (1996) Precise determination of the GPS satellite orbits and its new applications: GPS orbit determination at the Geographical Survey Institute. *J Geod Soc Japan* 42(1):1–14
- Musman S (1995) Deriving ionospheric TEC from GPS observations. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 258–262
- Niell AE (2000) Improved atmospheric mapping functions for VLBI and GPS. *Earth Planets Space* 52(10):703–708
- Obana K, Katao H, Ando M (2000) Seafloor positioning system with GPS-acoustic link for crustal dynamics observations. A preliminary result from experiments in the sea. *Earth Planets Space* 52(6):415–423
- Odijk D, Marel H van der, Song I (2000) Precise GPS positioning by applying ionospheric corrections from an active control network. *GPS Solutions* 3(3):49–57
- O’Keefe K, Stephen J, Lachapelle G, Gonzales RA (2000) Effect of ice loading of a GPS antenna. *Geomatica* 54(1):63–74
- Ou J (1995) On atmospheric effects on GPS surveying. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 243–247
- Pacholski W (1995) GPS phases: Single epoch ambiguity and slip resolution. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 295–299
- Pan M, Sjoeberg LE (1995) Unification of regional vertical datums using GPS. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 94–98
- Parkinson BW, Spilker JJ (eds) (1996) *Global Positioning System: Theory and applications*, Vol. I, II. American Institute of Aeronautics and Astronautics, *Progress in Astronautics and Aeronautics*, Vol. 163
- Pavlis EC, Beard RL (1995) The Laser Retroreflector Experiment on GPS-35 and 36. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 154–158
- Petovello MG, Lachapelle G (2000) Estimation of clock stability using GPS. *GPS Solutions* 4(1):21–33
- Poutanen M, Vermeer M, Maekinen J (1996) The permanent tide in GPS positioning. *J Geodesy* 70: 499–504
- Press WH, Teukolsky SA, Vetterling WT, Flannery BP (1992) *Numerical recipes in C*, 2nd Ed. Cambridge University Press
- Psiaki ML, Powell SP, Kintner PM Jr. (2000) Accuracy of the Global Positioning System-derived acceleration vector. *J Guid Control Dynam* 23(3):532–538
- Rajal BS, Madhwal HB (1997) Kinematic Global Positioning System survey as the solution for quick large scale mapping. *Survey rev* 34(265):159–162
- Ramatschi M (1998) Untersuchung von Vertikalbewegungen durch Meeresgezeitenauflasten an Referenzstationen auf Grönland. Dissertation, Technische Universität Clausthal
- Rapp RH (1986) Global geopotential solutions. In: Sunkel H (ed) *Mathematical and numerical techniques in physical geodesy. Lecture Notes in Earth Sciences*, Vol. 7, Springer-Verlag, Heidelberg
- Reigber C (1997) Geowissenschaftlicher Kleinsatellit CHAMP. *GPS-Anwendungen und Ergebnisse ’96: Beiträge zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam*, pp 266–273
- Reigber C (1997) IERS und IGS: Stand und Perspektiven. *GPS-Anwendungen und Ergebnisse ’96: Beitraege zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam*, pp 34–42
- Reigber C, Feissel M (1997) IERS missions, present and future. International Earth Rotation Service (ed) *Report on the 1996 IERS workshop*, Paris, 50 p (IERS technical note 22)
- Reigber C, Koenig R (1995) On the accuracy of IGS coordinate solution. In: *Proceedings of the First Turkish International Symposium on Deformation “Istanbul-94”*, Istanbul, Sept. 5–9, 1995, pp 445–453

- Reigber C, Schwintzer P, Luehr H (1996) CHAMP – a challenging mini-satellite payload for geoscientific research and application. Erste Geodätische Woche, Stuttgart, 7.-12. Oktober 1996, 4 p)
- Reinhart E, Franke P, Habrich H, Schlueter W, Seeger H, Weber G (1997) Implications of permanent GPS-arrays for the monitoring of geodetic reference frames. Sixth United Regional Cartographic Conference for the America, New York, 2–6 June 1997, 10 pp
- Reinking J, Angermann D, Klotz J (1995) Zur Anlage und Beobachtung grossräumiger GPS-Netze für geodynamische Untersuchungen. Allgemeine Vermessungsnachrichten 102(6):221–231
- Remondi B (1984) Using the Global Positioning System (GPS) phase observable for relative geodesy: Modelling, processing, and results. University of Texas at Austin, Center for Space Research
- Remondi BW, Brown G (2000) Triple differencing with Kalman filtering: Making it work. GPS Solutions 3(3):58–64
- Retscher G, Chao CHJ (2000) Precise real-time positioning in WADGPS networks. GPS Solutions 4(2):68–75
- Retscher G, Mok E (1999) Precise single epoch GPS positioning for deformation monitoring. ZfV 7: 221–228
- Rizos C, Han S, Chen HY (2000) Regional-scale multiple reference stations for carrier phase-based GPS positioning: A correction generation algorithm. Earth Planets Space 52(10):795–800
- Rizos C, Han S, Ge L, Chen HY, Hatanaka Y, Abe K (2000) Low-cost densification of permanent GPS networks for natural hazard navigation: First tests on GSI's GEONET network. Earth Planets Space 52(10):867–871
- Roberts GW, Dodson AH, Ashkenazi V (2000) Experimental plan guidance and control by kinematic GPS. Proc. Institution of Civil Engineers, Civil Engineering 138(1):19–25
- Rothacher M, Mervart L (1996) Bernese GPS Software Version 4.0. Astronomical Institute of University of Bern
- Rothacher M, Schaer S (1995) GPS-Auswertetechniken. Schriftenreihe des Deutschen Vereins für Vermessungswesen, Bd. 18, pp 107–121
- Rothacher M, Gurtner W, Schaer S (1995) Azimuth- and elevation-dependent phase center corrections for geodetic GPS antennas estimated from calibration campaigns. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 333–338
- Rummel R, Gelderen M van (1995) Meissl scheme: Spectral characteristics of physical geodesy. Manuscr Geodaet 20(5):379–385
- Rummel R, Ilk KH (1995) Height datum connection – the ocean part. Allgemeine Vermessungsnachrichten 102(8/9):321–330
- Rush J (2000) Current issues in the use of the global positioning system aboard satellites. Acta Astronaut 47(2–9):377–387
- Saastamoinen J (1972) Contribution to the theory of atmospheric refraction. B Geod 105–106
- Saastamoinen J (1973) Contribution to the theory of atmospheric refraction. B Geod 107
- Salzmann M (1995) Real-time adaptation for model errors in dynamic systems. B Geod 69:81–91
- Sandlin A, McDonald K, Donahue A (1995) Selective availability: To be or not to be? GPS World 6(9): 44–51
- Schaal RE, Netto NP (2000) Quantifying multipath using MNR ratios. GPS Solutions 3(3):44–48
- Schaffrin B (1991) Generating robustified Kalman filters for the integration of GPS and INS. Technical Report, No. 15, Institute of Geodesy, University of Stuttgart
- Schaffrin B (1995) On some alternative to Kalman filtering. In: Sanso F (ed) Geodetic theory today. Springer-Verlag, Berlin, pp 235–245
- Schaffrin B, Grafarend E (1986) Generating classes of equivalent linear models by nuisance parameter elimination. Manuscr Geodaet 11:262–271
- Scheinert M (1996) Zur Bahndynamik niedrigfliegender Satelliten. DGK, Reihe C, Heft 435, Verlag der Bayerischen Akademie der Wissenschaften
- Schildknecht T, Dudle G (2000) Time and frequency transfer: High precision using GPS phase measurements. GPS World 11(2):48–52
- Schneider M (1988) Satellitengeodäsie. Wissenschaftsverlag, Mannheim
- Schutz BE (2000) Numerical studies in the vicinity of GPS deep resonance. Advances in the Astronautical Sciences 105(1):287–302
- Schwarz K-P, El-Mowafy A (1995) Testing of epoch-by-epoch attitude determination and ambiguity resolution in airborne mode. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 191–196
- Schwarz K-P, El-Sheimy N (1995) Multi-sensor arrays for mapping from moving vehicles. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 185–189

- Schwarz K-P, Cannon ME, Wong RVC (1989) A Comparison of GPS kinematic models for the determination of position and velocity along a trajectory. *Manuscr Geodaet* 14:345–353
- Schwiderski EW (1978) Global ocean tide, I. A detailed hydrodynamical interpolation model. Rep. NSWC/DL TR 3866, Nav. Surf. Weapons Cent. Dahlgren, Va.
- Schwiderski EW (1979) Ocean tide, II. The semidiurnal principal lunar tide (M2). Rep. NSWC TR 79–414, Nav. Surf. Weapons Cent. Dahlgren, Va.
- Schwiderski EW (1980) On charting global ocean tide. *Rev Geophys* 18:243–268
- Schwiderski EW (1981a) Ocean tide, III. The semidiurnal principal solar tide (S2). Rep. NSWC TR 81–122, Nav. Surf. Weapons Cent. Dahlgren, Va.
- Schwiderski EW (1981b) Ocean tide, IV. The diurnal luni-solar declination tide (K1), Rep. NSWC TR 81–142, Nav. Surf. Weapons Cent. Dahlgren, Va.
- Schwiderski EW (1981c) Ocean tide, V. The diurnal principal lunar tide (O1). Rep. NSWC TR 81–144, Nav. Surf. Weapons Cent. Dahlgren, Va.
- Schwintzer P, Kang Z, Reigber C (1995) GPS satellite-to-satellite tracking for TOPEX/Poseidon precise orbit determination and gravity field model improvement. *J Geodyn* 20(2):155–166
- Seeber G (1993) *Satelliten-Geodaesie*. Walter de Gruyter 1989
- Seeber G (1996) Grundprinzipien zur Vermessung mit GPS. *Vermessungsingenieur* 47(2):53–64
- Seeger H, Franke P, Schlueter H, Weber G (1997) The significance and results of permanent GPS arrays. In: Proceedings Fourteenth United Nations Regional Cartographic Conference for Asia and the Pacific, Bangkok, 3–7 February 1997. 10 p
- Shank C (1998) GPS navigation message enhancements. *GPS World* 7(4):38–44
- Sigl R (1989) *Einführung in die Potentialtheorie*. Wichmann Verlag, Karlsruhe
- Sigl R (1978) *Geodätische Astronomie*. Wichmann Verlag, Karlsruhe
- Sjoeberg LE (1998) On the estimation of GPS phase ambiguities by triple frequency phase and code data. *ZfV* 123:162–163
- Sjoeberg LE (1999) Unbiased vs biased estimation of GPS phase ambiguities from dual-frequency code and phase observables. *J Geodesy* 73:118–124
- Skaloud J, Schwarz KP (2000) Accurate orientation for airborne mapping systems. *Photogramm Eng Rem S* 66(4):393–401
- Smith AJE, Hesper ET, Kuijper DC, Mets GJ, Visser PN, Ambrosius BAC, Wakker KF (1996) TOPEX/Poseidon orbit error assessment. *J Geodesy* 70:546–553
- Spilker JJ (1996) GPS navigation data. In: Parkinson BW, Spilker JJ (eds) *Global Positioning System: Theory and applications*, Vol. I, Chapter 4
- Springer TA, Beutler G, Rothacher M (1999) Improving the orbit estimates of GPS satellites. *J Geodesy* 73:147–157
- Stowers D, Moore A, Iijima B, Lindqwister U, Lockhart T, Marcin M, Khachikyan R (1996) JPL-supported permanent tracking stations. International GPS Service for Geodynamics: 1996 annual report, Nov. 1997, Pasadena, pp 409–420
- Strang G, Borre K (1997) *Linear algebra, geodesy, and GPS*. Wellesley-Cambridge Press
- Sun HP, Ducarme B, Dehant V (1995) Effect of the atmospheric pressure on surface displacements. *J Geodesy* 70:131–139
- Syndergaard S (1999) Retrieval analysis and methodologies in atmospheric limb sounding using the GNSS radio occultation technique. Dissertation, Niels Bohr Institute for Astronomy, Physics and Geophysics, Faculty of Science, University of Copenhagen
- Syndergaard S (2000) On the ionosphere calibration in GPS radio occultation measurements. *Radio Sci* 35(3):865–884
- Tapley BD, Schutz BE, Eanes RJ, Ries JC, Watkins MM (1993) Lageos laser ranging contributions to geodynamics, geodesy, and orbital dynamics. In: Contributions of Space Geodesy to Geodynamics: Earth Dynamics, *Geodyn. Ser.* 24:147–174
- Teunissen P (1997) Closed form expressions for the volume of the GPS ambiguity search spaces. *Artificial Satellites, Journal of Planetary Geodesy* 32(1):5–20
- Teunissen P (1997) On the GPS widelane and its decorrelating property. *J Geodesy* 71(9):577–587
- Teunissen P (1997) On the sensitivity of the location, size and shape of the GPS ambiguity search space to certain changes in the stochastic model. *J Geodesy* 71(9):541–551
- Teunissen P (1997) Some remarks on GPS ambiguity resolution. *Artificial Satellites, Journal of Planetary Geodesy* 32(3):119–130
- Teunissen P, Jonge P, Tiberius C (1997) Performance of the LAMBDA method for fast GPS ambiguity resolution. *J Inst Navig* 44(3):373–383
- Teunissen P, Jonge P, Tiberius C (1997) The least-squares ambiguity decorrelation adjustment: Its performance on short GPS baselines and short observation spans. *J Geodesy* 71(10):589–602
- Teunissen P, Jonge P, Tiberius C (1997) The volume of the GPS ambiguity search space and its relevance for integer ambiguity resolution. *LGR-Series: Publ. Delft Geod. Computing Centre*, No. 16, pp 133–142

- Teunissen PJG (1990) Quality control in integrated navigation systems. *IEEE Aero El Sys Mag* 5(7):35–41
- Teunissen PJG (1995) Size and shape of L1/L2 ambiguity search space. In: *GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115*, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 275–279
- Teunissen PJG (1995) The invertible GPS ambiguity transformations. *Manuscr Geodaet* 20(6):489–497
- Teunissen PJG (1995) The least-squares ambiguity decorrelation adjustment: A method for fast GPS integer ambiguity estimation. *J Geodesy* 70(1–2):65–82
- Teunissen PJG (1996) An analytical study of ambiguity decorrelation using dual frequency code and carrier phase. *J Geodesy* 70(8):515–528
- Teunissen PJG (1996) GPS carrier phase ambiguity fixing concepts. In: Kleusberg A, Teunissen PJG (eds) *GPS for geodesy*. Springer-Verlag, Berlin
- Teunissen PJG (1996) On the geometry of the ambiguity search space with and without ionosphere. *ZfV* 121(7):332–341
- Teunissen PJG (1997) A canonical theory for short GPS baselines. Part I: The baseline precision. *J Geodesy* 71(6):320–336
- Teunissen PJG (1997) A canonical theory for short GPS baselines. Part III: The geometry of the ambiguity search space. *J Geodesy* 71(8):486–501
- Teunissen PJG (1997) GPS double difference statistics: with and without using satellite geometry. *J Geodesy* 71(3):137–148
- Teunissen PJG (1997) On the GPS widelane and its decorrelating property. *J Geodesy* 71:577–587
- Teunissen PJG (1997) Precision, volume and eigenspectra for GPS ambiguity estimation based on the time-averaged satellite geometry. *J Geodesy* 71(5):290–301
- Teunissen PJG (1997) The geometry-free GPS ambiguity search space with a weighted ionosphere. *J Geodesy* 71(6):370–383
- Teunissen PJG (1998) Minimal detectable biases of GPS data. *J Geodesy* 72:630–639
- Teunissen PJG (2000) Probabilistic properties of GNSS integer ambiguity estimation. *Earth Planets Space* 52(10):801–807
- Teunissen PJG (2000) The GPS integer least-squares statistics. *Phys Chem Earth* 25(A9–A11):673–677
- Teunissen PJG (2000) The success rate and precision of GPS ambiguities. *J Geodesy* 74(3/4):321–326
- Teunissen PJG, Kleusberg A (1996) GPS observation equations and positioning concepts. In: Kleusberg A, Teunissen PJG (eds) *GPS for geodesy*. Springer-Verlag, Berlin
- Theakstone WH, Jacobsen FM, Knudsen NT (2000) Changes of snow cover thickness measured by conventional mass balance methods and by global positioning system surveying. *Geografiska Annaler* 81(A4):767–776
- Tiberius CCJM, Kenselaar F (2000) Estimation of the stochastic model for GPS code and phase observables. *Survey rev* 35(277):441–454
- Timmen L, Ye X (1997) SAR-Interferometrie unterstützt durch GPS zur Überwachung von Erdoberflächendeformationen. *GPS-Anwendungen und Ergebnisse '96: Beiträge zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam*, pp 104–114
- Timmen L, Bastos L, Boebel T, Cunha S, Forsberg R, Gidskehaug A, Hehl K, Meyer U, Nesemann M, Olesen AV, Rubek F, Xu GC (1998) The European Airborne Geoid Mapping System for Coastal Oceanography (AGMASCO). Progress in Geodetic Science at GW 98. In: *Proceedings of the Geodetic Week 1998*. University of Kaiserslautern, Germany, Shaker press, Aachen
- Torge W (1989) *Gravimetrie*. Walter de Gruyter, Berlin
- Torge W (1991) *Geodesy*. Walter de Gruyter, Berlin
- Tsai C, Kurz L (1983) An adaptive robustifying approach to Kalman filtering. *Automatica* 19:279–288
- Tscherning C, Rubek F, Forsberg R (1997) Combining airborne and ground gravity using collocation, Scientific Assembly of the International Association of Geodesy in conjunction with 28th Brazilian Congress of Cartography; Rio de Janeiro, 3–9 September 1997, 6 pp
- Tsujii T, Harigae M, Inagaki T, Kanai T (2000) Flight tests of GPS/GLONASS precise positioning versus dual frequency KGPS profile. *Earth Planets Space* 52(10):825–829
- Visser PNAM, IJssel J van den (2000) GPS-based precise orbit determination of the very low Earth-orbiting gravity mission GOCE. *J Geodesy* 74(7/8):590–602
- Wagner J, Bauer M (1997) GPS-Vermessung mit Echtzeitauswertung (RTK-Vermessung): ein Beitrag zur Einschätzung der Praxistauglichkeit und Praxisrelevanz. *Vermessungsingenieur* 48(2):87–92
- Wang J (2000) An approach to GLONASS ambiguity resolution. *J Geodesy* 74(5):421–430
- Wang J, Steward MP, Tsakiri M (1999) Adaptive Kalman filtering for integration of GPS with GLONASS and INS. Presentation in the XXIIth IUGG, Birmingham, England
- Wang J, Stewart MP, Tsakiri M (2000) A comparative study of the integer ambiguity validation procedures. *Earth Planets Space* 52(10):813–817
- Wang JG (1997) Filtermethoden zur fehlertoleranten kinematischen Positionsbestimmung. Neubiberg, 135 S

- Wang G, Chen Z, Chen W, Xu GC (1988) The principle of GPS precise positioning system. Surveying Press, Peking, ISBN 7-5030-0141-0/P.58, 345 p, (in Chinese)
- Wang G, Wang H, Xu GC (1995) The principle of the satellite altimetry. Science Press, Peking, ISBN 7-03-004499-1/P.797, 390 p, (in Chinese)
- Wang LX, Fang ZD, Zhang MY, Lin GB, Gu LK, Zhong TD, Yang XA, She DP, Luo ZH, Xiao BQ, Chai H, Lin DX (1979) Mathematic handbook. Educational Press, Peking, ISBN 13012-0165
- Wanninger L (1995) Enhancing differential GPS using regional ionospheric models. *B Geod* 69:283–291
- Wanninger L (1995) Einfluß ionosphärischer Störungen auf präzise GPS-Messungen in Mitteleuropa. Schriftenreihe des Deutschen Vereins für Vermessungswesen, Bd. 18, Stuttgart, pp 218–232
- Wanninger L (1999) Der Einfluss ionosphärischer Störungen auf die präzise GPS-Positionierung mit Hilfe virtueller Referenzstationen. *ZfV* 10:322–330
- Ware RH, Fulker DW, Stein SA, Anderson DN, Avery SK, Clark RD, Droegeleier KK, Kuettner JP, Minster J, Sorooshian S (2000) Real-time national GPS networks: Opportunities for atmospheric sensing. *Earth Planets Space* 52(11):901–905
- Warnant R, Pottiaux E (2000) The increase of the ionospheric activity as measured by GPS. *Earth Planets Space* 52(11):1055–1060
- Weber G (1994) Initial operational capability für das GPS: aktuelle Entwicklungen der US Satellitennavigation. SATNAV 94: Satellitennavigationssysteme – Grundlagen und Anwendungen, DGON-Seminar, Hamburg 24.–26. Oktober 1994, pp 1–14
- Weber R (1996) Monitoring Earth orientation variations at the Center for Orbit Determination in Europe (CODE). *Oesterr Z Vermess Geoinf* 84(3):269–275
- Wei M, Schwarz KP (1995) Direct ambiguity resolution using integer nonlinear programming methods. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 300–304
- Wenzel H-G (1985) Hochauflösende Kugelfunktionsmodelle für das Gravitationspotential der Erde. Wissenschaftliche Arbeiten der TU Hannover, Nr. 137
- Wicki F (1998) Robuste Schätzverfahren für die Parameterschätzung in geodätischen Netzen. Technische Hochschule Zürich
- Wieser A, Brunner FK (2000) An extended weight model for GPS phase observations. *Earth Planets Space* 52(10):777–782
- Wu CC, Kuo HC, Hsu HH, Jou BJD (2000) Weather and climate research in Taiwan: Potential application of GPS/MET data. *Terr Atmos Ocean Sci* 11(1):211–234
- Wu J, Lin SG (1995) Height accuracy of one and a half centimetres by GPS rapid static surveying. *Int J Remote Sens* 16(15):2863–2874
- Wuebbena G (1991) Zur Modellierung von GPS-Beobachtungen für die hochgenaue Positionsbestimmung. Universität Hannover
- Wuebbena G, Seeber G (1995) Developments in real-time precise DGPS applications: concepts and status. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 212–216
- Xu CJ, Liu JN, Song CH, Jiang WP, Shi C (2000) GPS measurements of present-day uplift in the Southern Tibet. *Earth Planets Space* 52(10):735–739
- Xu GC (1984) Very long baseline interferometry and tidal theories. The Institute of Geodesy and Geophysics, Chinese Academy of Sciences, M.Sc. Thesis No. 84011, (in Chinese)
- Xu GC (1992) Spectral analysis and geopotential determination (Spektralanalyse und Erdgeschwerefeldbestimmung). Dissertation, Deutsche Geodätische Kommission, Reihe C, Heft Nr. 397, Press of the Bavarian Academy of Sciences, ISSN 0065-5325, ISBN 3-7696-9442-2, 100 p, (with very detailed summary in German)
- Xu GC (2000) A concept of precise kinematic positioning and flight-state monitoring from the AGMASCO practice. *Earth Planets Space* 52(10):831–836
- Xu GC, Knudsen P (2000) Earth tide effects on kinematic/static GPS positioning in Denmark and Greenland. *Phys Chem Earth* 25(A4):409–414
- Xu GC, Qian Z (1986) The application of block elimination adjustment method for processing of the VLBI Data. Crustal Deformation and Earthquake, Vol. 6, No. 4, (in Chinese)
- Xu GC, Timmen L (1997) Airborne gravimetry results of the AGMASCO test campaign in Braunschweig. Geodetic Week Berlin '97, Oct. 6–11, 1997, electronic version published in <http://www.geodesy.tu-berlin.de>
- Xu GC, Hehl K, Angermann D (1994) GPS software development for use in aerogravimetry: Strategy, realisation, and first results. In: Proceedings of ION GPS-94, pp 1637–1642
- Xu GC, Fritsch J, Hehl K (1997) Results and conclusions of the carboorne gravimetry campaign in northern Germany. Geodetic Week Berlin '97, Oct. 6–11, 1997, electronic version published in <http://www.geodesy.tu-berlin.de>

- Xu GC, Bastos L, Timmen L (1997) GPS kinematic positioning in AGMASCO campaigns – Strategic goals and numerical results. In: Proceedings of ION GPS-97 meeting in Kansas City, September 16–19, 1997, pp 1173–1184
- Xu GC, Schwintzer P, Reigber Ch (1998) KSGSoft – Kinematic/Static GPS Software – Software user manual (version of 1998). Scientific Technical Report STR98/19 of GeoForschungsZentrum (GFZ) Potsdam
- Xu P (1995) Estimating the state vector in observable and singular hybrid INS/GPS systems without the knowledge of initial conditions. *Bull Geod Sci Affini* 54(4):389–406
- Xu QF (1994) GPS navigation and precise positioning. Army Press, Peking, ISBN 7-5065-0855-9/P.4, (in Chinese)
- Yang M, Tang CH, Yu TT (2000) Development and assessment of a medium-range real-time kinematic GPS algorithm using an ionospheric information filter. *Earth Planets Space* 52(10):783–788
- Yang Y (1991) Robust Bayesian estimation. *B Geod* 65:145–150
- Yang Y (1993) Robust estimation and its applications. Bayi Publishing House, Peking
- Yang Y (1994) Robust estimation for dependent observations. *Manuscr Geodaet* 19:10–17
- Yang Y (1997) Estimators of covariance matrix at robust estimation based on influence functions. *ZfV* 122(4):166–174
- Yang Y (1997) Robust Kalman filter for dynamic systems. *Journal of Zhengzhou Institute of Surveying and Mapping* 14:79–84
- Yang Y (1999) Robust estimation of geodetic datum transformation. *J Geodesy* 73:268–274
- Yang Y, He H, Xu GC (2001) Adaptively robust filtering for kinematic geodetic positioning. *J Geodesy* 75:109–116
- Yoon JC, Lee BS, Choi KH (2000) Spacecraft orbit determination using GPS navigation solutions. *Aerospace Sci Technol* 4(3):215–221
- Yuan YB, Ou JK (1999) The effects of instrumental bias in GPS observations on determining ionospheric delays and the methods of its calibration. *Acta Geod Cartogr Sinica* 28(2)
- Yunck TP, Melbourne WG (1995) Spaceborne GPS for earth science. In: GPS Trends in Precise Terrestrial, Airborne, and Spaceborne Applications: 21st IUGG General Assembly, IAG Symposium No. 115, Boulder, USA, July 3–4, 1995. Springer-Verlag, Berlin, pp 113–122
- Zhou J (1985) On the Jie factor. *Acta Geodaetica et Geophysica* 5 (in Chinese)
- Zhou J (1989) Classical theory of errors and robust estimation. *Acta Geod Cartogr Sinica* 18:115–120
- Zhou J, Huang Y, Yang Y, Ou J (1997) Robust least squares method. Publishing House of Huazhong University of Science and Technology, Wuhan
- Zhu J (1996) Robustness and the robust estimate. *J Geodesy* 70(9):586–590
- Zhu SY (1997) GPS-Bahnfehler und ihre Auswirkung auf die Positionierung. GPS-Anwendungen und Ergebnisse '96: Beiträge zum 41. DVW-Fortbildungsseminar vom 7. bis 8. November 1996 am Geo-Forschungszentrum Potsdam, pp 219–226
- Zhu SY (2001) Private communication and the source code of the EPOS-OC software
- Zhu SY, Reigber Ch, Massmann FH (1996) The German PAF for ERS, ERS standards used at D-PAF. D-PAF/GFZ ERS-D-STD-31101