

CURRICULUM VITAE

Alexander G. Pavelyev was born in 1938. At present time he is married and has two sons. From June 2000 up to present time he is **Head Laboratory of Radio Wave Propagation in Space, FIRE RAS (Kotelnikov' Institute of Radio Engineering and Electronics (Fryazino branch) of Russian Academy of Sciences)**.

Alexander G. Pavelyev received the B.S. and M.S. degrees from Gorky State University, Gorky, Russia, in 1961 and the Ph.D. degree in radio physics from the Academy of Sciences of the USSR, Moscow, Russia, in 1969. He became a Senior Researcher degree (Assistant Professor) in 1977. Since June 2000 up to present time, Dr. A. Pavelyev is the Head of the Laboratory of Radio Wave Propagation in Space of the Kotelnikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Moscow. From 1961 up to present time Dr. A. Pavelyev is working for IRE RAS. **From September 1999 up to March 2000 Dr. A. Pavelyev was awarded as TAO fellowship senior scientist (Japan, CRL). From September 2000 up to December 2000 he was awarded as STA senior research scientist (CRL, Japan). From December 2000 up to April 2001 Dr. A. Pavelyev was visiting Professor Kyoto University (RASC) (Japan). Dr. A. Pavelyev worked as a visiting Professor at Centre of Space and Remote Sensing Research National Central University, Taiwan (2002, 2003, 2004, 2005, 2006, 2009). Dr. A. Pavelyev worked as a visiting Professor at the School of Mathematical and Geospatial Sciences Royal Melbourne Institute of Technology, Australia, April-May 2010, and August-September 2011. During 1999-2007 five joint GFZ-IRE RAS innovative radio occultation projects were fulfilled.** Dr. A. Pavelyev awarded a honorary commemorative medal of the Lomonosov's 300 year Anniversary (2011), awarded a honorary commemorative medal of the Yurii Gagarin for the science merits before Russian Cosmonautics (2011), awarded a honorary commemorative medal of the Moscow's 850 year Anniversary (1997), awarded a honorary commemorative medal of the academician M.V.Keldysh for the science merits before Russian Cosmonautics (1992), awarded a honorary commemorative medal of the S.P. Korolev for the science merits before Russian Cosmonautics (1988), awarded the Gold Medal Exhibition of Economic Achievements of the USSR (1980), awarded the Silver Medal Exhibition of Economic Achievements of the USSR (1977), and medal for «valorous labour to mark V.I. Lenin Centenary» (1970).

Publications 2006-2015

1. **A. G. Pavelyev**, Y. A. Liou, S. S. Matyugov, A. A. Pavelyev, V. N. Gubenko, K. Zhang, and Y. Kuleshov Application of locality principle to radio occultation studies of the Earth's atmosphere and ionosphere. *Atmos. Meas. Tech. Discuss.*, 8, 721–758, 2015.
doi:10.5194/amtd-8-721-2015.

2. V. N. Gubenko, I. A. Kirillovich, **A. G. Pavelyev** Characteristics of the internal waves in the atmosphere of Mars obtained from analysis of the vertical temperature profiles by use of Mars Global Surveyor mission data. Space Research 2015, vol. 53, 2, pp. 141–151. (In Russian).
3. **A. G. Pavelyev** The Principle of the Locality and Radio Occultation Method for Remote Sensing of Layers in the Atmosphere and Ionosphere on Earth and Other Planets, Doklady Physics, 2013, Vol. 58, No. 9, pp. 375–378, ISSN 1028-3358.
4. **Pavelyev A.G.**, Kefei Zhang , Yuei-An Liou, A.A. Pavelyev, Chuan-Sheng Wang, J. Wickert , T. Schmidt , Y. Kuleshov Principle of Locality and Analysis of Radio Occultation Data. IEEE Transactions on Geoscience and Remote Sensing, 2013, V.51, No. 6 , Pt. 1. DOI: 10.1109/TGRS.2012.2225629, p. 3240-3249.
5. Alexey Pavelyev, **Alexander Pavelyev**, Stanslav Matyugov, Oleg Yakovlev, Yuei-An Liou, Kefei Zhang and Jens Wickert Radio Wave Propagation Phenomena from GPS Occultation Data Analysis. Chapter 5. Pp. 113-154. In the book Wave Propagation. Theories and Applications. Ed. By Yi Zheng. Published by InTech. Janeza Trdine 9, 51000 Rijeka, Croatia. 2013. ISBN 978-953-51-0979-2. <http://dx.doi.org/10.5772/3393>. Copyright@2013 InTech.www.intechopen.com.
6. Gubenko, V.N., **Pavelyev, A.G.**, Salimzyanov, R.R., Andreev, V.E. 2012, A method for determination of internal gravity wave parameters from a vertical temperature or density profile measurement in the Earth's atmosphere, Cosmic Res., 50(1), 21–31, doi: 10.1134/S0010952512010029.
7. **A. G. Pavelyev**, K. Zhang, C. S.Wang, Y. A. Liou, and Yu.Kuleshov Analytical method for determining the location of ionospheric and atmospheric layers from radio occultation data. Radiophysics and Quantum Electronics, Vol. 55, No. 3, August, 2012. 168-175.
8. **A. A. Pavelyev, S. S. Matyugov, A. G. Pavelyev, and O. I. Yakovlev** Atmospheric Refraction of Radio Waves on Occultation Satellite_to_Satellite Paths Journal of Communications Technology and Electronics, 2012, Vol. 57, No. 8, pp. 755–763.
9. **Pavelyev, A. G.**; Liou, Y. A.; Zhang, K.; Wang, C. S.; Wickert, J.; Schmidt, T; Gubenko V.N.; Pavelyev, A.A.; and Kuleshov, Y. Identification and localization of layers in the ionosphere using the eikonal and amplitude of radio occultation signals Atmos. Meas. Tech., 5, 1–16, 2012 doi:10.5194/amt-5-1-2012.
10. V. N. Gubenko, **A. G. Pavelyev**, R. R. Salimzyanov, and V. E. Andreev A Method for Determination of Internal Gravity Wave Parameters from a Vertical Temperature or Density Profile Measurement in the Earth's Atmosphere. Cosmic Research, 2012, Vol. 50, No. 1, pp. 21–31. ISSN 0010-9525.

11. **Pavelyev, A. G.**; Zhang, K.; Wang, C. S.; Kuleshov, Y.; Liou, Y. A.; Wickert, J. Identification of Inclined Ionospheric Layers Using Analysis of GPS Occultation Data IEEE Transactions on Geoscience and Remote Sensing, 49, 6, 2011. 2374-2384 p. 10.1109/TGRS.2010.2091138.
12. **Pavelyev, A. G.**, K. Zhang, S. S. Matyugov, Y. A. Liou, C. S. Wang, O. I. Yakovlev, I. A. Kucherjavenkov, and Y. Kuleshov (2011), Analytical model of bistatic reflections and radio occultation signals, Radio Sci., 46, RS1009, doi:10.1029/2010RS004434.
13. **Pavelyev A.G.**, Y.-A. Liou, J. Wickert, K. Zhang, C.-S. Wang, and Y. Kuleshov Analytical model of electromagnetic waves propagation and location of inclined plasma layers using occultation data. *Progress in Electromagnetics Research (PIER)*. 2010. V.106. pp. 177-202, doi: 10.2528/PIER10042707
14. Liou Y.A., **A.G. Pavelyev**, S.S. Matyugov, O.I. Yakovlev, J. Wickert 2010 Radio Occultation Method for Remote Sensing of the Atmosphere and Ionosphere. Edited by Y.A. Liou INTECH Published by In-The Olajnica 19/2, 32000 Vukovar, Croatia, 170 pp. 45 ill., ISBN 978-953-7619-60-2.
15. **Pavelyev, A.G.**, Y.-A. Liou, J. Wickert, T. Schmidt, A.A. Pavelyev, and S.S. Matyugov, 2010: Phase acceleration: a new important parameter in GPS occultation technology. GPS Solutions, V. 14, No. 1, 3-14. doi:10.1007/s10291-009-0128-1.
16. A. Romanov, A. Selivanov, V. Vishnyakov, A. Vinogradov, V. Selin, **A. Pavelyev**, O. Yakovlev, and S. Matyugov Space System “Radiomet” for GLONASS/GPS Navigation Signal Radio Occultation Monitoring of Lower Atmosphere and Ionosphere Based on Super-Small Satellites. In: Small Satellite Missions for Earth Observation New Developments and Trends. Editors Rainer Sandau · Hans-Peter Röser · Arnoldo Valenzuela. ISBN978-3-642-03500-5. e-ISBN978-3-642-03501-2. DOI 10.1007/978-3-642-03501-2. Springer Heidelberg Dordrecht London NewYork. Library of Congress Control Number: 2009940671 pp. 85-94. Springer-Verlag Berlin Heidelberg. 2010.
17. **Pavelyev A.G.** Radio vision of the vertical structure of the layers and a study of radio wave propagation conditions in the atmosphere using high-stability satellite signals. Radio physics and Quantum Electronics 2009. V. 52, Nos. 5-6. P. 363-369. DOI 10.1007/s11141-009-9151-x
18. **A.G.Pavelyev**, Y.A.Liou, J.Wickert, V.N.Gubenko, A.A.Pavelyev, and S.S.Matyugov New Applications and Advances of the GPS Radio Occultation Technology as Recovered by Analysis of the FORMOSAT-3/COSMIC and CHAMP Data-Base. Andrea Steiner · Barbara Pirscher ·Ulrich Foelsche · Gottfried Kirchengast Editors. New Horizons in Occultation Research. Studies in Atmosphere and Climate. Springer-Verlag Berlin

Heidelberg 2009. ISBN978-3-642-00320-2e-ISBN978-3-642-00321-9 DOI10.1007/978-3-642-00321-9. p. 165-178.

19. **Pavelyev A.G.**, Liou Y.A., Wickert J., Gavrik A.L., Lee C.C. Eikonal acceleration technique for studying of the Earth and planetary atmospheres by radio occultation method *Geophys. Res. Lett.* 2009. V. 36. doi:10.1029/2009GL040979, L21807, 1-5.
20. **Pavelyev, A.G.**, Y. A. Liou, J.Wickert, A.A. Pavelyev Identification and localization of layers in the atmosphere and ionosphere based on observing variations in the phase and amplitude of radio waves along the satellite-to-satellite path Proceedings of PIERS conference. Moscow 18-21 August. 2009, p. 207-211, Published by The Electromagnetics Academy 777 Concord Avenue, Suite 207 Cambrigde MA 02138 ISSN 1559-9450.
21. Jens Wickert, Grzegorz Michalak, Torsten Schmidt, Georg Beyerle, Chio-Zong Cheng, Sean B. Healy, Stefan Heise, Cheng-Yung Huang, Norbert Jakowski, Wolfgang Köhler, Christoph Mayer, Dave Offiler, Eiji Ozawa, **Alexander G. Pavelyev**, Markus Rothacher, Byron Tapley, and Christina Arras GPS Radio Occultation: Results from CHAMP, GRACE and FORMOSAT-3/COSMIC *Terr. Atmos. Ocean. Sci.*, Vol. 20, No. 1, 35-50, February 2009 doi: 10.3319/TAO.2007.12.26.01(F3C).
22. **Pavelyev A.G.** Location of plasma layers in the ionosphere from observation of the phase and amplitude variations in the telecommunication link satellite-to-satellite. *Radio physics and Quantum Electronics* 2008. V. 51, No. 1. P. 1-7.
23. **Pavelyev, A. G.**, Y. A. Liou, J. Wickert, T. Schmidt, A. A. Pavelyev, and S. F. Liu (2007) Effects of the ionosphere and solar activity on radio occultation signals: Application to CHAllenging Minisatellite Payload satellite observations, *J. Geophys. Res.*, 112, A06326, doi:10.1029/2006JA011625.
24. **A.G. Pavelyev**, J. Wickert, Y.A. Liou, A.A. Pavelyev, and J. Jacobi Analysis of atmospheric and ionospheric wave structures using the CHAMP and GPS/MET radio occultation database in *Atmosphere and Climate Studies by Occultation Methods* Foelsche, Ulrich; Kirchengast, Gottfried; Steiner, Andrea (Eds.) 2006, X, 336 p., 134 illus., 21 in colour, Hardcover, p. 225-242. Springer Verlag.
25. **A.G. Pavelyev**, Y.A. Liou, J. Wickert, A.A. Pavelyev, T. Schmidt, K. Igarashi, S.S. Matyugov Location of layered structures in the ionosphere and atmosphere by use of GPS occultation data *Advances in Space Research* 42 (2008) 224–228.
26. Y. A. Liou and **A. G. Pavelyev** Simultaneous observations of radio wave phase and intensity variations for locating the plasma layers in the ionosphere *Geophysical Research Letters*, Vol. 33, No. 23, L231021-5, doi:10.1029/2006GL027112, 2006.

27. Yuei-An Liou, **Alexander G. Pavelyev**, Shuo-Fang Liu, Alexey A. Pavelyev, Nick Yen, C.-Y. Huang, and Chen-Joe Fong FORMOSAT-3/COSMIC GPS RadioOccultation Mission: Preliminary Results. IEEE Transactions on Geoscience and Remote Sensing, V. 45, № 11, November 2007, 3813-3826.
28. V.N. Gubenko, **A.G. Pavelyev**, V.E. Andreev Identification of wave origin of temperature fluctuations and determination of the intrinsic frequency of internal gravity waves in the Earth's stratosphere derived from radio occultation data 2008 J. Geophys. Res., 113, № D08109, doi:10.1029/2007JD008920, 1-9.
29. Y.A.Liou, **A.G. Pavelyev**, J. Wickert, S.F. Liu, A.A. Pavelyev, T. Schmidt, and K. Igarashi Application of GPS radio occultation method for observation of the Internal waves in the atmosphere 2006 J.Geophys.Res., 111,D06104

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