

CURRICULUM VITAE

PERSONAL INFORMATION

Name RYABOV, Boris
Address Ropazu 5 - 13, Riga, LV-1039, Latvia
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E-mail ryabov@latnet.lv
Nationality Russian
Date of birth 05.11.1951

WORK EXPERIENCE

- Dates 1997 to date
- Name and address of employer Institute of Astronomy of the University of Latvia
Rainis Boulevard 19, LV-1586, Riga, Latvia
- Telephone +371 - 703 45 85
- Fax +371 - 782 01 80
- Occupation or position held Senior Researcher
- Main activities and responsibilities Coordination and analyses of solar observations taken with the RT-32 radio telescope.

- Dates 1998 to date
- Name and address of employer Ventpils International Radio Astronomy Center
Akademijas laukums 1, LV-1050, Riga, Latvia
- Telephone +371 - 722 83 21
- Fax +371 - 782 11 53
- Occupation or position held Senior Researcher
- Main activities and responsibilities Model analyses of solar polarization observations taken with the radio telescopes RATAN-600, SSRT, NoRH, VLA. Student advising.

- Dates 1994 – 1996, 1991 – 1998, 1980 – 1986
- Name of employer Radioastrophysical Observatory, Latvian AS
- Occupation or position held Leading Researcher
- Main activities and responsibilities Model analyses of the local microwave sources on the Sun.

- Dates 1992 – 1993
- Name of employer Special Astrophysical Observatory, Russian AS
- Occupation or position held Visiting Scientist
- Main activities and responsibilities Review current solar observations taken with the new Panoramic Spectra Analyzer of the radio telescope RATAN-600.

- Dates
- Name of employer
- Occupation or position held
- Main activities and responsibilities

1984 – 1987, 1977 – 1979, 1974 – 1976

Main Astronomical Observatory (Pulkovo)

Visiting Scientist, Ph.D. Student, Assistant (work on probation).

Model analyses of coronal holes, young Latvian astronomers advising. Solar observations with the RATAN-600 and the BPR, model construction and simulation of gyro resonance emission and quasi-transverse propagation of microwaves. Data reduction of the BPR solar observations.

EDUCATION AND TRAINING

- Dates
- Name and type of organization
 - Principal subject
- Title of qualification awarded

1983

Main Astronomical Observatory, Leningrad, USSR

Ph.D. Thesis: "Model simulations of the sunspot magnetic fields in the solar corona on the base of radio observations of the local sources on the Sun"

Ph.D., Astronomy

- Dates
- Name and type of organization providing education and training
 - Principal subjects
- Title of qualification awarded

1977 - 1979

Main Astronomical Observatory, Leningrad, USSR

(Pulkovo Astronomical Observatory, St. - Petersburg, Russia)

Astronomy under Prof. G.B. Gelfreikh supervision

Ph.D. student

- Dates
- Name and type of organisation providing education and training
 - Principal subjects
- Title of qualification awarded

1969 - 1974

Mathematics and Mechanics Department

Leningrad State University, Leningrad, USSR

Mathematics, Astronomy, Astrophysics

M.Sc., Astronomy, *M.Sc. Thesis:* "Model ... "

PERSONAL SKILLS AND COMPETENCES

LANGUAGES

MOTHER TONGUE

OTHER LANGUAGES

- Reading skills
- Writing skills
- Verbal skills

- Reading skills
- Writing skills
- Verbal skills

Russian

English

good

good

good

Latvian

good

basic

excellent

CONTRACTS AND PROJECTS

Latvian Council of Science (LCS)

- *"Microwave observations of the Sun as information system on solar activity forecast"*, 11.1856, 2011 - 2013, PI.
- *"Solar Investigations on the Basis of the VIRAC 32-m Radiotelescope"*, 96.0129, 1997 - 2000, PI.
- *"Solar Investigations at Microwaves"*, 01.0042.6.1, 2001 - 2004, CR.
- *"Microwave observations of the Sun"*, 05.0024, 2005 - 2009, CR.

Ministry of Education and Science (MES) , Republic of Latvia

- "Application of the CLEAN and MEM procedures to the RT-32 radio maps of the Sun", 08-4, 2008, PI.

Commission of the European Communities (*6th Framework Programme*)

- "Space Weather and Europe - an Educational Tool with the Sun" (SWEETS) , 044532, 2007, CR .

International Association for the promotion of co-operation with scientists from the New Independent States of the former Soviet Union (INTAS)

- *"Solar Coronal Magnetography"*, INTAS 00 - 0181, 2001 - 2003, CO.
- *"Study of the MHD Oscillations in the Solar Active Regions Using Radio Observations"*, INTAS 00 - 0543, 2001 - 2004, CR.

International Science Foundation (ISF)

- *"Three-Dimensional Structure of the Coronal Magnetic Fields of Active Regions on the Sun"*, LFB000, 1994 - 1995, PI.

COMPUTER EXPERIENCE

Fortran, IDL, HTML, LaTeX.

DRIVING LICENCE

since 1998

ANNEXES

RESEARCH INTERESTS

- Solar atmosphere of large isolated sunspots
 - Reveal the physical conditions in the solar atmosphere above large isolated sunspots where the outward plasma flow of the solar wind is observed.
- Solar coronal magnetography
 - Improve the technique of coronal magnetography relating to the data taken with the radio telescopes RATAN-600, Nobeyama Radio Heliograph (NRH), Siberian Solar Radio Telescope (SSRT), and Very Large Array (VLA).
 - Analyze the series of the coronal magnetograms of active regions to investigate MHD oscillations and topological peculiarities in coronal magnetic structures.
- Large - scale coronal structures
 - Evaluate the magnetic field strength, plasma density and temperature within coronal holes, coronal streamers, and coronal loops by means of radio spectral polarization observations with the radiotelescopes RATAN-600 and VLA.
 - Elaborate numerical models (thermal radiation and propagation of microwaves) to analyze radio observations comprehensively and predict new features of large-scale coronal structures.

SELECTED PUBLICATIONS

1. Bezrukov D. A., Ryabov B. I., Shibasaki K., "Isolated sunspot with a dark patch in the coronal emission", *Baltic Astronomy*, 2012, v.21, N4, p.509-516.
2. Bezrukov D., Ryabov B., Peterova N., Topchilo N., "Sharp changes in the ordinary mode microwave emission from a stable sunspot: model analysis", *Latvian Journal of Physics and Technical Sciences*, 2011, v.48, N2, p.56-69.
3. B. V. Agalakov, T. P. Borisevich, N. G. Peterova, B. I. Ryabov, N. A. Topchilo, S. N. Kuznetsov, I. N. Myagkova, B. Yu. Yushkov, K. Kudela, "Studying the solar corona above active regions from microwave observations during solar flares recorded by CORONAS-F satellite", *Geomagnetism and Aeronomy*, 2006, v.46, N5, p.547-554.
4. Ryabov B.I., Maksimov V.P., Lesovoi S.V., Shibasaki K., Nindos A., Pevtsov A. *Coronal magnetography of solar active region 8365 with the SSRT and NoRH radio heliographs.*- *Solar Physics*, 2005, v.226, N2, p.223-237.
5. Bezrukov D.A., Ryabov B.I., Bogod V.M., Gelfreikh G.B., Maksimov V.P., Drago F., Lubyshev B.I., Peterova N.G., Borisevich T.P. *On the technique of coronal magnetography through quasi-transverse propagation of microwaves.*- *Baltic Astronomy*, 2005, v.14, N 1, p.83-103.
6. Ryabov B.I. *Coronal magnetograms of solar active regions.*- in "Solar Physics with the Nobeyama Radioheliograph", *Proceedings of Nobeyama Symposium 2004, NSRO Report No. 1*, December 2006, pp.111-119.
7. Ryabov B. I., Bogod V. M., Gelfreikh G. B., Maksimov V. P., Drago F., Lubyshev B. I., Peterova N. G., Borisevich T. P., Bezrukov D. A. *Coronal magnetograms of solar active regions.*- *Proceedings of the International Astronomical Union Symposium No.223, 2004 "Multi-Wavelength Investigations of Solar Activity"*, A.V. Stepanov, E.E. Benevolenskaya, A.G. Kosovichev ed-s, v. 2004, Issue IAUS 223, November 2004, p.215-218.
8. Boris Ryabov *Coronal magnetic field measurements through quasi-transverse propagation.*- Chapter 7 in Kluwer ASSL book "Solar and Space Weather Radiophysics", Current Status and Future Developments Series, v. 314., Ed.-s Dale E. Gary and Christoph U. Keller, 2004.
9. Bogod V.M., Gelfreikh G.B., Drago F.Ch., Maksimov V.P., Nindos A., Kaltman T.I., Ryabov B.I.,

- Tokhchukova S.Kh. *Study of polarized emission of the NOAA 9415 flare-productive active region at microwaves.* - "ASTROPAGE", 2003, paper: astro-ph/03009444, <http://lanl.arxiv.org/abs/astro-ph%2F0309444>
10. Peterova N.G., Ryabov B.I., Tokhchukova S.Kh. *A peculiar microwave source in the structure of the NOAA 8108 AR from observations with RATAN-600.* - Bulletin of Special Astrophysical Observatory, 2001, v.51, p.106-111.
 11. Ryabov B.I., Pilyeva N.A., Alissandrakis C.E., Shibasaki K., Bogod V.M., Garaimov V.I., Gelfreikh G.B. *Coronal magnetography of an active region from microwave polarization inversion.* - Solar Physics, 1999, v.185, N1, p.157-175.
 12. Ryabov B.I. *Analyses of the multiple inversion of circular polarization of sunspot-associated microwave sources.* - Radiophysics, 1998, v.41, N3, p.259-269.
 13. Ryabov B.I. *Analysis of the multiple inversion of circular polarization in solar microwave local sources.* - Baltic Astronomy, 1997, v.6, p.651-660.
 14. Gelfreikh G.B., Pilyeva N.A. and Ryabov B.I. *On the gradient of coronal magnetic fields from radio observations.* - Solar Physics, 1997, v.170, N2, p.253-264.
 15. Peterova N.G., Pilyeva N.A., Ryabov B.I. *A microwave sunspot-associated source with S-shaped circular polarization.* - Baltic Astronomy, 1996, v.5, p.157-164.
 16. Willson R.F., Kile J.N., Lang K.R., Donaldson S., Bogod V.M., Gelfreikh G.B., Ryabov B.I., Hafizov S.R. *Large-scale coronal magnetic fields: noise storms, soft X-rays and radio polarization.* - Adv.Space Res., 1995, v.17, N 4/5, p.265-268.
 17. Lang K.R., Willson R.F., Kile J.N., Lemen J., Strong K.T., Bogod V.M., Gelfreikh G.B., Ryabov B.I., Hafizov S.R., Abramov V.E., Svetkov S.V. *Magnetospheres of solar active regions inferred from spectral-polarization observations with high spatial resolution.* - Ap. J., 1993, v.419, Part 1, p.398-417.
 18. Ryabov B.I., Nagelis J., Mancevics L., Skerse D., Kaminskis J. *A model support to analysis of high-resolution radio observations of the Sun.* - Baltic Astronomy, 1992, v.1, p.239-250.
 19. Borovik V.N., Kurbanov M.Sh., Livshits M.A., Ryabov B.I. *Coronal holes against background of the quiet Sun: observations with the RATAN - 600 in the 2-32cm range.* -Soviet Astronomy, 1990, v.34 (5), September-October, p.522-530.
 20. Gelfreikh G.B., Peterova N.G., Ryabov B.I. *Measurements of magnetic fields in solar corona as based on the radio observations of the inversion of polarization of local sources at microwaves.* - Solar Phys., 1987, v.108, No.1, p.89-97.
 21. Ryabov B.I., Spektor A.R. *Coronal magnetic structures related to solar flares.* - Publ.Debrecen Heliophys. Obs., 1983, v.5, part 1, p.323-332.
 22. Peterova N.G., Ryabov B.I. *Restoring of the polarized emission of local sources and the structure of the coronal magnetic fields.* - Soviet Astron., 1981, v.25, No.5 (Astron.Zh., 1981, v.58, p.1070-1077).

SELECTED CONFERENCE PROCEEDINGS

1. Bezrukov D., Ryabov B., Shibasaki K. „Isolated sunspot with dark patch in coronal emission”,- BAASP 2012 – 1st International Scientific Conference. 7 – 8 May, 2012, VeA, Ventspils, Latvia.
2. Ryabov Boris, Bezrukov Dmitry “VIRAC: Recent results in Solar Radio Astronomy - Preparation for Space Weather activities” „EU- Russia open days’ workshop, October 24 – 25, 2011, Vienna, Austria (http://rp7.ffg.at/upload/medialibrary/11_Ryabov.pdf).
3. Bezrukov D. A, Ryabov B. I. “Prospects of solar microwave observations at the Ventspils Radio Astronomy Center”,- The Community of European Solar Radio Astronomers (CESRA), Conference "Energy storage and release through the solar activity cycle - models meet radio observations". La Roche en Ardenne (Belgium), from June 15 to June 19, 2010.
4. Hippler R., Glover A., Wolfram F., Jansen F., Kokowsky M., Schmieder B., Poedts S., Stanislawski I., Stelmach J., Kudela K., Reis R., Nakamura R., Denne W., Gausa M., Beck P., Tulunay Y., Ryabov B.. “Space Weather and Europe – an Educational Tool with the Sun (SWEETS)”,- Fourth UN-ESA-NASA-JAXA Workshop on the International Heliophysical Year and Basic Space Sciences "First Results from the International Heliophysical Year 2007", 2-6 June 2008, Sozopol, Bulgaria.

5. Ryabov B. I. "Coronal Magnetograms of Solar Active Regions", - Proceedings of Nobeyama Symposium 2004, Kiyosato, Japan, October 26 - 29, 2004, "Solar Physics with the Nobeyama Radioheliograph", NRO Report N1, 2006, p. 111-119.
6. Peterova, N. G., Agalakov, B. V., Borisevich, T. P., Korzhavin, A. N., Ryabov, B. I. "The three-dimensional structure of the corona above active region NOAA 9591 from microwave observations". - Astronomy Reports, 2006, v. 50, Issue 8, p.679-686.
7. Ryabov B. I., Bogod V. M., Gelfreikh G. B., Maksimov V. P., Drago F., Lubyshev B. I., Peterova N. G., Borisevich T. P., Bezrukov D. A. "Coronal magnetograms of solar active regions", - Proceedings of the International Astronomical Union Symposium No.223 2004, "Multi-Wavelength Investigations of Solar Activity", A.V. Stepanov, E.E. Benevolenskaya, A.G. Kosovichev ed-s, v. 2004, Issue IAUS 223, November 2004, p.215-218.
8. Ryabov B.I. *Coronal Magnetography from Quasi-Transverse Propagation*. - Green Bank Workshop "Solar Radiophysics with the Frequency Agile Solar Radiotelescope, NRAO, Green Bank, WV, USA, May 23-25, 2002, Program and Abstracts, p.37.
9. Gelfreikh G.B., Ryabov B.I., Peterova N.G., Drago F., Agalakov B.V., Borisevich T.P., Lubyshev B.I., Maksimov V.P. *Oscillations of the zero-polarization region in the core of the local source NOAA 6412*. - Third Russian-Chinese Conference on Space Weather, 19-21 June 2002, Abstracts, Irkutsk, 2002, p.47.
10. Kaltman T.I., Agalakov B.V., Korzhavin A.N., Maksimov V.P., Ryabov B.I., Peterova N.G. *The inversion of polarization sign in solar active regions with RATAN-600 and SSRT observations*. - Proc. 10th European Solar Physics Meeting, 'Solar Variability: From Core to Outer Frontiers', Prague, Czech Republic, 9-14 September 2002, ESA SP-506, December 2002.
11. Peterova N.G., Ryabov B.I., Tokhchukova S.H. *Microwave observations of the active region with a coronal streamer*. - Abstracts, JENAM-2000, Moscow, Russia, May 29 - June 3, 2000, p.134.
12. Abramov-Maksimov V.E., Kushnir M.V., Peterova N.G., Ryabov B.I. *Microwave radio emission of AR6444 by observations using RATAN-600*. - Abstracts, JENAM-2000, Moscow, Russia, May 29 - June 3, 2000, p.112.
13. Shmeld I., Dementjev A., Lipatov B., Molotov I., Ryabov B. *First VLBI observations with the Ventspils 32 m antenna*. - Abstracts, JENAM-2000, Moscow, Russia, May 29 - June 3, 2000, p.173.
14. Ryabov B.I., Maksimov V.P. *On the possibility to search out the peculiarities of coronal magnetic fields*. - Abstracts, International Conference on Solar Physics "Structure and Dynamics of the Solar Corona", Troitsk, Russia, October 4-8, 1999, p.48.
15. B.Ryabov, I.Shmeld *The program of first observations on the Ventspils 32m radiotelescope*. - Abstracts, Joint European and National Astronomical Meeting (JENAM-97), Thessaloniki, Greece, 2-5 July 1997, p.241.
16. Ryabov B.I. *Problems of solar coronal magnetic fields radiomeasurements by the effect of wave mode coupling in the region of quasi-transverse propagation*. - Abstracts, Third Volga International Summer School on Space Plasma Physics (ISS97), 1 June - 11 June, 1997, Nizhniy Novgorod, p.38.
17. Gelfreikh G.B., Pilyeva N.A., Ryabov B.I. *Coronal magnetic fields of solar active regions: radio measurements by the RATAN-600*. - Book of Abstracts, Univ.of Barcelona, Conference on "Radio emission from the stars and the Sun", Barcelona, Spain, 3-7 July, 1995, p.59.
18. Korzhavin A.N., Opeikina L.V., Ryabov B.I., Shatilov V.A. *Microwave emission of large-scale solar coronal structures*. - Abstracts of Second SOHO Workshop, Italy, 27 Sept.-1 Oct., 1993, p.61.
19. Bogod V.M., Gelfreikh G.B., Ryabov B.I., Hafizov S.R. *Coronal magnetic fields from the effect of the double inversion of circular polarization of radio emission*. - "The Magnetic and Velocity Fields of Solar Active Regions", ASP Conference Series, Harold Zirin, Guaxiang Ai, and Haimin Wang (eds.), 1993, v.46, p.302- 305.
20. Bogod V.M., Gelfreikh G.B., Ryabov B.I., Hafizov S.R. *The discovery of slim magnetic field structure in the active region using the solar radio observations*. - Abstracts of IAU Colloquium No.141, Beijing, China, 1992, p.76.

INVITED TALKS

1. *"Coronal magnetograms of solar active regions derived from polarization inversion in microwaves"*- Nobeyama Symposium 2004 "Solar Physics with the Nobeyama Radioheliograph", Seisen-Ryo, Kiyosato, Nobeyama Solar Radio Observatory, Japan, October 26 – 29, 2004.
2. *"The Sun at Centimeter Wavelengths"*.- Nordic-Baltic Summer School in Radio Astronomy, Ventspils, Latvia, July 15-28, 2001.
3. *"Coronal Magnetography from Quasi-Transverse Propagation"*.- Green Bank Workshop "Solar Radiophysics with the Frequency Agile Solar Radiotelescope, NRAO, Green Bank, WV, USA, May 23-25, 2002.

January 18, 2013

Ryabov B. I.