

Alexey Chepurnov

Research interests

- Statistical properties of interstellar media
- Processing of ISM observations, obtaining ISM parameters from WHAM data
- Techniques of CMB observations (regarding RATAN-600 radio telescope), role of Galactic foregrounds and discrete radio sources
- Statistical simulation of observations
- Software development and languages

Education

- 1996 - Ph.D. in Radioastronomy and Astrophysics from Special Astrophysical Observatory of Russian Academy of Sciences (SAO RAS)
- 1983 - M.Sc. in Radiophysics and Electronics, from Leningrad Polytechnic Institute

Ph.D. thesis title:

Study of cosmic microwave backgrounds at the RATAN-600 radio telescope

M.Sc. thesis title:

Study of non-symmetrical microstrip waveguides

Professional experience

1999-2002 Consultant (Architur Information Systems GmbH)

1988-1997 Research scientist (SAO RAS)

1983-1988 Software engineer (SAO RAS)

Professional activities

Participating in conferences:

- The International School of Astrophysics “D. Chalonge”, Erice, Italy, 1992.
- The Young European Radioastronomers’ Conference, Guadalajara, Spain, 1990.

Visiting of conferences:

- The Summer School of Theoretical Physics (Cosmology and Large Scale Structure), Les Houches, France, 1993.
- Forté users conference, San Francisco, USA, 1999.

Recent results

- A one-dimensional variation of VCA techniques developed, allowing recovering velocity spectral index and spectrum amplitude from spectral line observations. Applicability confirmed by numerical simulations.
- A preliminary estimation of injection scale and amplitude of electron density spectrum obtained from high-latitude WHAM intensity data.
- An algorithm developed for removing the systematic error from WHAM intensity map.

Publications

1. A.Chepurnov, The Galactic foreground angular spectra, *Astronomical and Astrophysical Transactions*, 1998, **17**, 281-300
2. Y. Parijskij, A. Kopylov, N. Soboleva, O. Verkhodanov, A. Temirova, O. Zhelenkova, P. Tsibulev, A. Chepurnov, V. Stolyarov and N. Bursov, *Dark Ages of the Universe, Proceedings of International School of Astrophysics "D. CHALONGE"*, Erice, Italy, 1997.
3. Chepurnov A.V., Study of the cosmic microwave backgrounds at RATAN-600 radiotelescope, Ph.D. thesis, Nizhnij Arkhys, 1996.
4. Chepurnov A.V., Computer modeling of very deep surveys in radioastronomy, Preprint SAO RAS No.107 S.-Pb., 1995.
5. Parijskij Yu.N., Chepurnov A.V., CMB anisotropy experiments, *Space Science Reviews*, **74**, 269, 1995.
6. Bursov N.N., Chepurnov A.V., Lipovka N.M., Soboleva N.S., Temirova A.V., The spectral characteristics of the RATAN-600 RC-catalog sources, *Astronomy and Astrophysics Supplement Series*, **101**, 447, 1993.
7. Parijskij Yu.N., Bursov N.N., Lipovka N.M., Soboleva N.S., Temirova A.V., Chepurnov A.V., The RATAN-600 7.6 cm catalogue of radio sources within the interval 22h-4h at declination of SS433, *Astronomy and Astrophysics Supplement Series*, **96**, 583, 1992.
8. Chepurnov A.V., Parijskij Yu.N., Starobinsky A.A., CDM model: COBE and RATAN-600 experiments, in *Proceedings of International School of Astrophysics "D. Chalonge"*, Erice, Italy, 1992.
9. Parijskij Yu.N., Starobinsky A.A., Chepurnov A.V., The new analysis of the results of "Cold-80" CMB anisotropy experiment, *Pis'ma v ZhETF*, **56**, 561, 1992.
10. Parijskij Yu.N., Erukhimov B.L., Mingaliev M.G., Berlin A.B., Bursov N.N., Nizhelskij N.A., Naugolnaja M.N., Chernenkov V.N., Verkhodanov O.V., Chepurnov A.V., Starobinsky A.A., Discovery of the small scale sky anisotropy at 2.7cm: radio sources or relic emission? In *Proceedings of NATO Workshop "Observational Tests of Cosmological Inflation"*, eds. T. Shanks et al, Kluwer Academic Publishers, 437, 1991.
11. Chepurnov A.V., A contribution of non-resolved discrete sources when searching for anisotropy of microwave background of the Universe, in *Thesis of XXII Young European Radio Astronomers Conference (Guadalajara, Spain)*, 20, 1990.
12. Erukhimov B.L., Likhvan O.P., Chepurnov A.V., Chernenkov A.V., A local complex for data acquisition and receiver control with support of parallel processes, *Astrofizicheskie Issledovanija*, **32**, 173, 1990.
13. Novikov Yu.N., Chepurnov A.V., Iterative calculation of microstrip structure parameters, *Radiotekhnika i Elektronika*, **31**, 872, 1986.