Andrei Lobanov: Curriculum Vitae
General Data

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Education

1996 **Ph.D. in Physics:** New Mexico Institute of Mining and Technology
Advisors: Dr. J. Eilek, Dr. J.A. Zensus
Thesis: "Physics of The Parsec-Scale Structures in 3C345".

1991 **M.Sc. in Astronomy:** Moscow State University, Moscow, Russia
Advisors: Prof. N.S. Kardashev, Dr. L.I. Gurvits
Thesis: "Cosmological Tests and Variability of the Radio Structures in AGN".

1989 **B.Sc. in Astronomy:** Moscow State University, Moscow, Russia
Advisor: Dr. N.N. Samus
Thesis: "Bursting behavior of *U Gem* type cataclysmic variables"

Professional Employment

1998- **Max–Planck–Institut für Radioastronomie, Bonn, Germany, Staff Astronomer:** ground and space VLBI observations and data analysis; modeling the nuclear regions of AGN.

1996-98 **Max–Planck–Institut für Radioastronomie, Bonn, Germany, Postdoctoral Fellow:** observations and modelling of IDV radio sources; mm–VLBI observations and data analysis.

1993-96 **National Radio Astronomy Observatory, USA; Junior Research Associate:** VLBI monitoring of 3C 345; models of relativistic jets; quality control of the VLBA data.

1992 **The Netherlands Foundation for Research in Astronomy (summer); Junior Research Associate:** VLBI study of high–redshift quasars.

1991-93 **Astro Space Center, Moscow, Russia; Junior Research Associate:** observation support software for the Space VLBI mission "Radioastron"; models of compact relativistic radio sources.

1988,89 **Special Astrophysical Observatory, Nizhniy Arkhyz, Russia (summers); Research Assistant:** multiobject spectrography; testing and development of faint object subtraction algorythms; observation support for visiting observers.

1987-88 **Institute of Nuclear Physics, Moscow, Russia; Research Assistant (part time):** experiment support; designing a satellite magnetic field sensor.

Experience

Radioastronomy: Extensive experience in scheduling, observing, and data reduction at the VLBA, VSOP, VLA, and Effelsberg 100-m telescope. Experience in 3 mm–VLBI observations: CMVA observing sessions support at Effelsberg. Limited experience in working with the EVN correlator in Bonn. Space VLBI: designing the mission simulation and scheduling software for "Radioastron"; some experience with the space VLBI data acquisition station in Green Bank. The VLBA: developing a method for mapping the synchrotron turnover frequency distribution in compact jets, using multifrequency VLBA data with unmatched uv–coverages.

Astrophysics: Extensive experience in studying parsec–scale jets and central regions of AGN. Analytical and numerical jet models: combining kinematic, spectral, and variability information within a single framework. Developing a method for probing the opacity, pressure and density gradients in the nuclear environment of AGN, using the observed frequency dependence of the position of the jet base.

Computing: 8 years of programming in "C" under UNIX, VMS, and MS-DOS; limited exposure to "C++"; working knowledge of FORTRAN, HTML and CGI. Experience in developing various scientific application software: spectral imaging from multifrequency VLBA data; management and analysis of VLBI monitoring data; space VLBI software; faint object subtraction algorythms. Some experience with high–level GUI interface, socket and network programming. Extensive experience in AIPS, Caltech VLBI Package, DIFMAP, PGPLOT, FITSIO. Working with Mathematica, Mathcad, PV-WAVE, IDL, WIP and other UNIX–based support and visualisation programs.

Personal description

Work: Self–motivated, communicable, enjoy interactions with people, work equally easily on my own and in a team, like to tackle challenging problems and learn new things.

Other: Languages: Russian (native), English (fluent), basic German, Spanish, and French.