

Curriculum vitae
Sergej G. Moiseenko

Was born in Kischinev (USSR) on 26 of November 1962.

1985 - graduated Odessa State University (Ukraine), speciality "Fluid Mechanics". Title of diploma work: "Numerical simulation of the initial part of underexpanded gas jet with central body". Graduated from the University with honors.

1989-1993 PhD study at Moscow State University

1993-up to now young scientific researcher, senior scientific researcher, head of applied and theoretical astronomy department at the Space Research Institute of the Russian Academy of Sciences

1995 – PhD in mathematical simulations in astrophysics at the Space Research Institute (RSI) of the Russian Academy of Sciences. The title of the PhD thesis : "Modelling of two-dimensional problems of gravitational magnetic gas dynamics and its astrophysical applications.",

2007 Doctor thesis in astrophysics at the Moscow State University The title of Doctor thesis: «Numerical simulation of collapse problems of rotating and magnetized astrophysical objects from protostellar clouds to core-collapsed supernovae»

Main scientific interests:

Development of numerical methods for multidimensional MHD problems and its applications in astrophysics.

Development an application of Lagrangian completely conservative operator-difference scheme on triangular grid of variable structure.

Simulation of collapse of cold rapidly rotating protostellar cloud

Numerical simulation of magnetorotational processes in protostellar cloud

Iron core collapse and formation of a neutron star.

Magnetorotational supernova explosion mechanism.

Study of Magneto-Differential-Rotational Instability I core-collapsed supernovae

List of selected publications
List of publications of S.G. Moiseenko

- G.S.Bisnovaty-Kogan, S.G.Moiseenko
Violation of mirror-symmetry of the magnetic field in a rotating star and possible astrophysical manifestations.
Soviet Astronomy 1992,v.36,No.3,p.285-289
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, K.V.Kosmachevskii, S.G.Moiseenko
An implicit Lagrangian code for the treatment of nonstationary problems in rotating astrophysical bodies.
Astronomy and Astrophysics Supplement Series, 1996, v.115,573-594
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, K.V.Kosmachevskii, S.G.Moiseenko
Simulation of the collapse of a rotating gas cloud on triangular restructuring Lagrangian grid.
Astronomical and Astrophysical transactions, 1996, v.10, 341-355
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
2D calculations of the collapse of rotating magnetized gas cloud.
Astrophysics and Space Science, 1996, v.239, 1-13
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
Explosion mechanisms of Supernovae: the magnetorotational model.
Physics-Uspekhi,1997, v.40, 1076-1079
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
Magnetorotational Mechanism: 2D Simulation.
Proc. of the IAU Colloquium No.166, " The local bubble and beyond",
Lecture notes in physics v.506 1998, pp. 145-148
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
Nonstationary magnetorotational processes in a rotating magnetized cloud.
Astronomy and Astrophysics, 2000, v. 355, 1181-1190
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
Simulation of the magnetorotational supernova explosion mechanism
Nuclear Physics B (Proc. Suppl.) 80 (2000) CD-ROM 07/16
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
Collapse of a magnetized rotating cloud. 2D numerical simulations.
Astrophysics and Space Science 2000, v.274, 389-397
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
Magneto-Rotational ejection.
Astrophysics and Space Science 2001, v.276 (suppl), 295-296,
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
Magnetorotational explosion. Results of 2D simulations.
Proc. of XX Texas Symposium of Relativistic astrophysics.
Austin,AIP Conf. Proc. v586, 2001, 433-438.

- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
Jet formation from rotating magnetized clouds.
Proc. of XX Texas Symposium of Relativistic astrophysics.
Austin,AIP Conf. Proc. v586, 2001, 439-445.
- G.S. Bisnovaty-Kogan, N.V. Ardeljan, S.G. Moiseenko,
Magnetorotational explosions: supernovae and jet formation.
Mem. Soc. Astron. Ital., 73, 1134-1143 (2002)
- S.G.Moiseenko, N.V.Ardeljan, G.S.Bisnovaty-Kogan,
Supernovae type II: magnetorotational explosion. RevMexAA
(Serie de conferencias), 15,231, 2003
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko, Magnetorotational
mechanism: Supernova Explosions and Ejections, Proc of IAU symposium
No.214 High Energy Processes and Phenomena
in Astrophysics, Suzhou, China 5-10 August 2003 p117-120
- N.V.Ardeljan, G.S.Bisnovaty-Kogan, K.V.Kosmachevskii, S.G.Moiseenko
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formation of a neutron star on an adaptive triangular grid in lagrangian coordinates.,
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- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
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- P.L.Biermann, S.G.Moiseenko, S.Ter-Antonyan, A.Vasile
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Gamma Ray Bursts in "The early Universe and the Cosmic Microwave
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- N.V.Ardeljan, G.S.Bisnovaty-Kogan, S.G.Moiseenko
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- S.G.Moiseenko, G.S.Bisnovaty-Kogan, N.V.Ardeljan
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as Cosmological Lighthouses" (Padova, Italy, June 16-19, 2004),
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- P.L.Biermann, G.S.Bisnovaty-Kogan, S.G.Moiseenko
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from Laboratory and Stars to Primordial Structures"

Angra dos Reis, Brazil, November 28 - December 3, 2004
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"Gravity, Astrophysics, and Strings@the Black Sea, Proc.3rd Advanced
Research Workshop, P.P.Fiziev, M.D.Todorov (Eds.), 10-16 June 2005, Kiten,
St.Kliment Ohridski University Press, Sofia, 2006" 23 pages

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S.G.Moiseenko, G.S.Bisnovaty-Kogan, N.V.Ardeljan
A magnetorotational core-collapse model with jets
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Astronomical and Astrophysical Transactions
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- G.S.Bisnovaty-Kogan, S.G.Moiseenko, N.V.Ardeljan
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Relativity, edited by Thibault Damour, Robert T. Jantzen and Remo Ruffini.
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- S.G.Moiseenko, G.S.Bisnovaty-Kogan, N.V.Ardeljan
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Proceedings of a 6th international conference held at Velancia,
Spain June 13-17, 2011. ASP Conference Series,
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Hawaii, USA June 25-29, 2012. Edited by N.V. Pogorelov, E. Audit
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and magneto-differential-rotational instability.
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