Aksenov Alexey

Position: Senior scientific staff member

Laboratory for Astrophysics and Plasma Physics

Inst. for Theoretical and Experimental Physics, Moscow

Period covered: 2000-present

I Scientific Work

Stellar rotation, collapse of stars cores, neutrino transport, neutrino luminosity curves, gravitational radiation, Z-pinches, heavy ion fusion, multidimensional multi-temperature hydrodynamic simulations, one dimensional radiative transfer codes, a numerical modeling of electron-positron pairs and photons transfer from the surface of a Strange Star, etc.

II Conferences and educational activities

2007: Plasma Physics, Febrary, Zvenigorod, Russia; 4th Italian-Sino Workshop, July, Pescara; Zababakhin scientific talks, September, Snezhinsk, Russia; 2006: Plasma Physics, Febrary, Zvenigorod, Russia; Phys. Of neutron stars, April, London; Marsell Grossmann General Relativity, June, Berlin

Regular conferences: Plasma Physics, Febrary, Zvenigorod, Russia one Conference per year, from 2003; Neutron star workshop, June, St.-Petersburg one Conference per two year from 1997; Heavy Ions Fusion one Conference per two year (San Diego, 2000; Moscow 2002; Princeton 2004); High Energy Astrophysics December, Space Res. Inst., Moscow, one Conference per year, 2002—2005

III Service activities

Within ICRANet

2007-2008 Visitor at Icranet 3-4 months per a year

Outside ICRANet

1989—1992 engineer, Laboratory for Astrophysics and Plasma Physics of the Institute for Theoretical and Experimental Physics (ITEP); 1992—1999 Junior sci. staff member, ITEP; 1999—

2008 scientific staff member, ITEP; 2008—now Senior scientific staff member, department for mathematical modeling and turbulence, Institute for Computer-Aid design, Russian academy of Sciences.

1993, 1997 2—3 months Visitor at Max-Planck Institute for Astrophysics, Garching, FRG; 2000/11—2001/10 Postdoc Fellow, Cond. Matt. Dept., Weizmann Institute of Science, Rehovot, Israel; 2002—2008 Visitor at Weizmann Institute of Science, Rehovot, Israel 1—3 months per a year

IV 2007-2008 List of Publications

Structure of pair winds from compact objects with application to emission from bare strange stars. Aksenov, A. G.; Milgrom, M.; Usov, V. V. Ap&SS, 308, 613.

Thermalization of a nonequilibrium electron-positron-photon plasma. Aksenov, A. G.; Ru¢ ni, R.; Vereshchagin, G. V. Phys. Rev. Lett., 99, 125003.

From massive neutrinos and inos and the upper cut-o¤ to the fractal structure of the Universe to recent progress in theoretical cosmology. Aksenov, A. G.; Lattanzi, M.; Ru¢ ni, R.; Vereshchagin, G. V. Il Nuovo Cimento B, 122, 1377.

Thermalization of Electron-Positron-Photon Plasmas with an application to GRB. Aksenov A.G., Ru¢ ni R., Vereshchagin G.V. AIP Conf. Proc., 966, 191.

GRBs and the thermalization process of electron-positron plasmas. Aksenov A.G., Bianco C.L., Ru¢ ni R., Vereshchagin G.V., AIP Conf. Proc., 1000, 309.

The thermonuclear burning wave in the target for the relativistic heavy ions driver. Aksenov, A.G. et al. Questions of Atomic Science and Technics (VANT) in press (in russian).

Aksenov Alexey bas born inMoscow in 1966. From1983 till 1989 he was a student ofMoscow State Engineering Physics Institute (Technical University) of the Faculty of Experimental and Theoretical Physics. He received his diploma of physics in 1989. From 1991 till 1995 he was a post-graduate student (postal tuition) of Institute for Theoretical and Experimental Physics (Supervisors: V.S. Imsheniik and D.K. Nadyozhin). The PhD thesis .Neutrino luminosity curves, the gravitational radiation and the SNe explosion at a gravitational star.s core collapse. defended in 1998 at Space Research Institute of RAS.

He worked in Laboratory of Astrophysics and plasma physics of Institute of Theoretical and Experimental Physics in Moscow as an engineer (1989.1992), Junior sci. sta¤ member (1992. 1999), Sci. sta¤ member (1999.2000), and Senior sci. sta¤ member (2000.2008). Also from 2000/11 till 2001/10 he has Postdoc Fellow (with host professors V.V. Usov and M. Milgrom), Condensed Matter Physics Department, Weizmann Institute of Science, Rehovot, Israel. From 2008 he is working in Department for mathematical modeling and turbulence, Institute for Computer-Aid Design, Russian Academy of Sciences as Senior sci. sta¤ member.

Aksenov.s research includes astrophysics (the gravitational star.s core collapse and SN mechanisms, neutron stars) and thermonuclear plasma physics (the heavy ions fussion and Z-pinches). The investigation methods for those di¤erent objects are based on the computational physics and the development of original numerical methods (multidimensional hydrodynamic, one-dimensional radiative transfer, magnetohydrodynamic codes).