

Vereshchagin Gregory

Position: researcher

Period covered: 2008



I Scientific Work

- Thermalization of optically thick pair plasma
- Kinetic instabilities of collisionless shockless electron-ion plasmas
- Relativistic hydrodynamics
- Correlation dynamics in cosmology
- Massive neutrinos in cosmology

II Conferences and educational activities

Conferences and Other External Scientific Work

- APS April Meeting, St. Louis, USA, 12-15 April, 2008
- 3rd Stueckelberg Workshop, Pescara, Italy, 3-7 September, 2008
- Probing Stellar Populations out to the Distant Universe, Cefalù, Italy, September 7-19, 2008

Work With Students

- Gustavo de Barros
- Juracy Rangel-Lemos

III Service activities

Within ICRANet

Signing the Agreement of collaboration between ICRANet and the Belarusian State University, Minsk, 4 September, 2008, as coordinator of collaboration from the side of ICRANet

Outside ICRANet

Seminars

- “Cosmic Gamma-Ray Bursts”
Belarusian Physical Society, Institute of Physics, National Academy of Sciences, Minsk, Belarus, April 24, 2008.
- “Relaxation of electron-positron plasma”
Theoretical physics department, Belarusian State University, Minsk, Belarus, April 30, 2008.
- “Thermalization of pair plasma with baryonic loading”
(with A.G. Aksenov and R. Ruffini)
ICRA seminar. Rome, March 12, 2008

IV Other

Public lectures

- “Creazione della materia e antimateria dalla luce”

Bos’Art 2008. Festival internazionale multimediale di Filosofia, Letteratura, Scienza, Arte, Cinema, Musica, Teatro. Bosa, Sardegna, August 8, 2008.

V 2007-2008 List of Publications

1. G.V. Vereshchagin and G. Yegorian, “Dynamics of perturbations in Gurzadyan-Xue cosmological models”, International Journal of Modern Physics D, Vol. 17 (2008) No 2, pp. 203-223.
2. A.G. Aksenov, M. Lattanzi, R. Ruffini and G.V. Vereshchagin, “From massive neutrinos and inos and the upper cut-off to the fractal structure of the Universe to recent progress in theoretical cosmology” Il Nuovo Cimento B, Vol. 122 (2007) No 12, pp. 1377-1384.
3. R. Ruffini , G.V. Vereshchagin and S.-S. Xue, “Vacuum polarization and plasma oscillations”, Physics Letters A, Vol. 371 (2007) No 5-6, pp. 399-405.
4. G.V. Vereshchagin, “Inflation and cycles in Loop Quantum Cosmology”, Il Nuovo Cimento B, B, Vol. 122 (2007) No 2, pp. 163-166.
5. H.G. Khachatryan, G.V. Vereshchagin and G. Yegorian, “Luminosity distance in GX cosmological models”, Il Nuovo Cimento B, Vol. 122 (2007) No 2, pp. 197-200.
6. A.G. Aksenov, R. Ruffini and G.V. Vereshchagin, “Thermalization of nonequilibrium electron-positron-photon plasmas”, Physical Review Letters, Vol. 99 (2007) No 12, 125003.