APPLICANT INFORMATION

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CURRICULUM VITAE

Date of birth January 17, 1971
Nationality Russian

EDUCATION

1988 I finished a school course with a silver medal.

1989-1994 I was a student of the Moscow State University, Faculty of mechanics and mathematics.

1994-1997 I was a post-graduate student. I have defended the Ph.D.thesis "Electrohydrodynamics of suspensions of spherical particles with an electrical double layer on their surface" (1999).

WORK

1998-present time I am a scientific researcher of Moscow State University, Sternberg Astronomical Institute, Solar Physics Department. My work consists in mathematical and numerical simulations of magnetohydrodynamical processes in space plasmas. The main results were presented and discussed at some conferences. I have 13 published papers, and 1 paper is in press now.

BIBLIOGRAPHY

1. *I.V.Oreshina* About the calculation of the rate and the sedimentation potential of an suspension of particles with an electrical double layer. - in the collected artcles "Analytical, numerical and experimental methods in mechanics». – 1995. – Moscow State University. – PP.56-60. (in Russian)

2. *V.L.Natyaganov, L.N.Natyaganova, I.V.Oreshina* Electrocapillary motion of an spherical drop with an electrical double layer in an initial stage of disruption of the layer. --- thesis of reports of the V international conference of wimen-mathematicians "Mathematics. Economics". - 1997. - Rostov-na-Donu. - P.97. (in Russian)

3. *V.L.Natyaganov, I.V.Oreshina* Electroforetic motion and sedimentation of the suspension of particles with an electrical double layer. - thesis of reports of the V international conference of wimen-mathematicians "Mathematics. Economics". - 1997. - Rostov-na-Donu. - P.98. (in Russian)

4. *V.L.Natyaganov, I.V.Oreshina* Electrocapillary motion of the suspension of spherical Drops with an electrical double layer. Generalized formula Of Maxwell. - thesis of reports of the VI international conference of wimen-mathematicians "Mathematics. Education. Economics". - 1998. - Cheboksary. - P.95. (in Russian)

5. *I.V.Oreshina* Electrohydrodynamics of suspensions of spherical particles with an electrical double layer on the surface. - Ph.D.thesis, Moscow. - 1999. - 125p. (in Russian)

6. *I.V.Oreshina* Electrohydrodynamics of suspensions of spherical particles with an electrical double layer on the surface. - Abstract of the Ph.D.thesis, Moscow. - 1999. - 12p. (in Russian)

7. *I.V.Oreshina, B.V.Somov* About conformal transformation method for problems of cosmic electrodynamics. - Proceedings of the Academy of Sciences. Physics. - 1999. - N8. - PP.1543-1549. (in Russian)

8. *V.L.Natyaganov, I.V.Oreshina* Electrohydronynamics of monodisperse emulsions: 1. Sedimentation of an Emulsion of Drops with an electrical double layer. - Colloid Journal. – V.62. - N1. - PP.79-85.

9. *V.L.Natyaganov, I.V.Oreshina* Electrohydronynamics of monodisperse emulsions: 2. Electrophoretic motion of spherical emulsion drops. - Colloid Journal. - V.62. - N1. - PP.86-89.

10. *B.V.Somov, A.V.Oreshina, I.V.Oreshina* Magnetic reconnection in the accretion disk corona of a compact star. - theses of reports of international conference "Sun at the maximum of activity and solar-stars analogys". - 2000. – Pulkovo observatory, St-Petersbourg. -P.185. (in Russian)

11. *B.V.Somov, A.V.Oreshina, I.V.Oreshina* Magnetic reconnection in the accretion disk corona of a compact star. - Proceedings of institutes of higher education. Radiophysics. - 2001. - V.XLIV. - N9. - PP.796-805. (in Russian)

12. *Oreshina I.V., Oreshina A.V., Somov B.V.* Magnetic Reconnection in the Accretion Disc Corona of Compact Stars // Poster at the 13th European Workshop on White Dwarfs (Naples, Italy, 24-28 June 2002); talk at the 8th Asia-Pacific Regional Meeting (Tokyo, Japan, 2-5 July 2002); poster at the International Conference on Theoretical Physics (Paris, France, 22-27 July 2002)

13. *Oreshina I.V., Somov B.V.* Simple Topological Model of Bastille Day Flare (July 14, 2000) // "Actual Problems of Physics of Solar and Star Activity", (Nizhny Novgorod, Russia, 2-7 June 2003), theses of conference, P.34; article is in press (in Russian)

PRESENTATION INFORMATION

Requested Presentation Type: ORAL

Presentation Title: 3D Numerical Modelling of Magnetic Fields in the Solar Corona

Presentation Abstract:

We present a software for 3D reconstruction of magnetic fields in the Solar Corona on the basis of observed magnetograms. It has been applied to the Active Region NOAA 9077, July 14, 2000 (Bastille Day Flare). The field has been modeled using the data of MDI/SOHO. We perform an analysis of the computed structure and show that two-ribbon nature of the flare observed in different wavelengths by spacecrafts YOHKOH and TRACE is the consequence of the topology of the magnetic field. A location and a form of the flare chromospheric ribbons as well as an appearance of bright 'kernels' along the edges of ribbons are explained. The new method has an advantage of simplicity and clearness.

REQUESTED FINANCIAL AID

I would be very grateful, dear Colleagues, if you are able to pay

- Hotel
- Registration fee