**CURRICULUM VITAE OF SERGEI V. EROKHIN**

Name: **Sergei V. Erokhin**

E.mail:*sverohin@tisnum.ru*

Date and Place of birth: **August 19, 1993, RF**

Nationality: **Russia**

**Education** **(degrees, dates, universities):**

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| --- | --- | --- |
| **Date** | Degree | University |
| 2010-2014 | Bachelor of physic \* | Moscow Institute of Physics and Technology State University, Moscow, Russia |
| 2014/2016 | Master of physics \*\* | Moscow Institute of Physics and Technology State University, Moscow, Russia |

\* Modeling of mechanical properties of nanopolycrystalline diamond

\*\* Investigation of mechanical properties and features of formation of diamond based nanostructures

**Specialization:** Numerical quantum chemistry, ab-initio calculations, carbon (diamond nanopolycrystals, nanotube, graphene)

**Computing Skills**

**Software packages:** Molecular modeling (HyperChem, LAMMPS), ab initio quantum-mechanical calculations (VASP, SIESTA)

**Languages**: MatLab

**Operating Systems**: Windows, Linux

**Software Applications**: Scientific computing/visualization tools (Matlab, [Diamond](http://www.crystalimpact.com/diamond/), [Chemcraft](http://www.chemcraftprog.com/), [OVITO](http://www.ovito.org/), etc.);

vector and raster graphics editors (CorelDRAW, Adobe Photoshop, etc.); typesetting systems (MS Word)

**List of courses and workshops**

| **Date** | **University** |
| --- | --- |
| 15/06/2016-20/06/2015 | deMon-2k and deMonNano tutorial, CNRS-University of Paris-Sud |
| 5/07/2015-11/07/2015 | European Summer School 2015, "Light!An introduction to modern Physics of Light",Université de Strasbourg |

**Career/Employment**

| **Period** | **Position** | **Institution and place of work** |
| --- | --- | --- |
| 2014/up to now | Engineer | Technological Institute for Superhard and Novel Carbon Materials, Troitsk, Russia |

# Participation in Grants and projects Contributions to scientific journals

* 1. Grant of President of Russian Federation for government support of young Ph.D. scientists MK-6218.2015.2
	2. Financial support of the Ministry of Education and Science of the Russian Federation in the framework of Increase Competitiveness Program of NUST «MISiS» (№ К2-2017-001)
	3. The Russian Science Foundation under grant No 17-72-20223

# PUBLICATIONS

# Scientific journals

* 1. **S.V. Erohin**, P.B. Sorokin, *Elastic properties of nanopolycrystalline diamond: The nature of ultrahigh stiffness.* Appl. Phys. Lett. 107, 121904 (2015)
	2. AV Telichko, **SV Erohin**, GM Kvashnin, PB Sorokin, BP Sorokin, VD Blank, *Diamond’s third-order elastic constants: ab initio calculations and experimental investigation.* Journal of Materials Science 52 (6), 3447-3456 (2017)
	3. V. Blank, V. Churkin, B. Kulnitskiy, IA Perezhogin, A. Kirichenko, V. Denisov, **SV Erohin**, P. Sorokin, M. Popov, *Phase diagram of carbon and the factors limiting the quantity and size of natural diamonds.* Nanotechnology, 29 (11), 115603 (2018)
	4. V. Blank, V. Churkin, B. Kulnitskiy, IA Perezhogin, A. Kirichenko, **SV Erohin**, P. Sorokin, M. Popov, *Pressure-Induced Transformation of Graphite and Diamond to Onions.* Crystals, 8 (2), 68 (2018)
	5. S. Sakai, **S.V. Erohin** et al, *Dirac Cone Spin Polarization of Graphene by Magnetic Insulator Proximity Effect Probed with Outermost Surface Spin Spectroscopy.* Advanced Functional Materials 28 (20), 1800462 (2018)
	6. (Accepted) Nebogatikova N.A., Antonova I.V., **Erohin S.V.**, Kvashnin D.G., Olejniczak A., Volodin V.A., Skuratov A.V., Krasheninnikov A.V., Sorokin P.B., Chernozatonskii L.A. *Nanostructuring few-layer graphene films by swift heavy ions for electronic application: tuning of electronic and transport properties,* Nanoscale

# Abstracts of contributions to conferences

* 1. P.B. Sorokin, **S.V. Erohin**, *Investigation of ultrahigh stiffness of diamond nanopolycrystals*, book of abstracts of Physics Boat 2014 "Atomic structure of nanosystems from first-principles simulations and microscopy experiments", Helsinki (Finland) - Stockholm (Sweden), June 3-5 2014, p. 68.
	2. **S.V. Erohin**, P.B. Sorokin, “*Theoretical investigation of ultrastifness effect of diamond nanopolycrystals*”, Abstracts of V Annual international conference of youth sciences IBCP RAS-VUZes, Moscow, Russia, October 30 2014.
	3. **S.V. Erohin**, P.B. Sorokin, *Theoretical investigation of ultrahardness diamond nanopolycrystals*, book of abstracts of 9th international conference “Carbon: fundamental problem of material science and technology”, Moscow(Russia), November 5-8 2014, p. 146
	4. **Sergey V. Erohin**, Pavel B. Sorokin, “Investigation of ultrahigh stiffness of diamond nanopolycrystalls”, International Conference “Theory for Accelerated Materials Design: New Tool for Materials Science”, Moscow, Russia, December 1-2 2014.
	5. **S.V. Erohin**, P.B. Sorokin, “Theoretical investigation of ultrahigh stiffness of diamond nanopolycrystalls”, 12th International conference advances carbon nanostructures, St. Petersburg, Russia, June 29 – July 3 2015.
	6. **S.V. Erohin**, P.B. Sorokin, B.I. Yakobson, “Investigation of chemically induced phase transition of multi layered graphene to diamond”, International conference of young scientists working on the field of carbon materials, Moscow, Troitsk, Russia, May 30 – 1 June, 2017