

Victor V. Titov CURRICULUM VITAE

Current Address

Research Institute of Physics, Southern Federal University,
Stachki Ave., 194, Room 307, Rostov-on-Don, 344090, Russia
Phone: +7 8632 434066, +7 903 4611113
E-mail: *multifract@gmail.com*;

Biographical Data

Date of Birth: May 04, 1978, citizenship: Russian Federation; married, 1 child

Education and Degrees

2000-2003

Post graduate courses, PhD degree from Rostov State University, Russia in Physics & Mathematics (Solid State Physics) In the Russian Federation, equivalent of PhD degree is named "*Kandidat nauk*" (Candidate of Science).

PhD thesis: "Multifractal analysis of the grains' patterns on the surface of alkali niobates-based ferroelectric ceramics."

1999-2000

Diploma of Qualified Specialist in Applied Mathematics (Computer Science)

(In the Russian Federation, this degree is equivalent to a Master's degree)

MS thesis: "Fractal image coding on massively parallel systems."

1995-1999

Bachelor's Diploma of Rostov State University, Russia, Applied Mathematics

Employment History

2004 - present

Senior Research Associate, Research Institute of Physics, Southern Federal University, Russia

- Carried out original researches in materials science and applied mathematics. Last years researches were mainly devoted to the elaboration and programming of numerical methods, different computational experiments, and digital image processing of microscopic photography of materials surfaces.

2000 - 2004

Junior Research Associate, Research Institute of Physics, Rostov State University, Russia

Languages

Russian(native), French, English

Research Interests

- Fractal and Multifractal data analysis;
- Ferroelectric materials, relaxor ferroelectrics, multiferroics;
- Image and data processing ;
- Disordered and chaotic systems;
- Computations on massively parallel systems;

Grants and awards

2012 A grant of Russian Foundation for Basic Research

Author and co-author of more than 80 journal publications and conference talks.

Major Peer Reviewed Journal Publications

1. V.V. Laguta, V.A. Stephanovich, I.P. Raevski, S.I. Raevskaya, V.V. Titov, V.G. Smotrakov, V.V. Eremkin. Magnetolectric effect in antiferromagnetic multiferroic $\text{Pb}(\text{Fe}_{1/2}\text{Nb}_{1/2})\text{O}_3$ and its solid solutions with PbTiO_3 . // *Physical Review B*. 2017. V.95, No. 1. P. 014207. (13 pp).
2. Marysko M, Laguta V, Raevski I.P., Kuzian R.O., Olekhovich N.M; Pushkarev, A.V., Radyush Yu.V., Raevskaya S.I., Titov V.V., Kubrin S.P. Magnetic susceptibility of multiferroics and chemical ordering. // *AIP Advances*. 2017. V.7. P. 056409. (6 pp).
3. O.A. Bunina, Yu.A. Kuprina, I.P. Raevski, Ya.S. Knyazeva, S.I. Raevskaya, H. Chen, C.-C. Chou, V.V. Titov, D. Mezzane, E.I. Sitalo. X-Ray and Dielectric Studies of Hot-Pressed $\text{K}_2\text{Sr}_4\text{Nb}_{10}\text{O}_{30}$ Ceramics // *Ferroelectrics* 2016, V. 501, No.1. P.145-153.
4. I.P. Raevski, A.V. Pushkarev, S.I. Raevskaya, N.M. Olekhovich, Yu.V. Radyush, S.P. Kubrin, H. Chen, C.-C. Chou, D.A. Sarychev, V.V. Titov, M.A. Malitskaya. Structural, Dielectric and Mossbauer Studies of $\text{PbFe}_{0.5}\text{Sb}_{0.5}\text{O}_3$ Ceramics with Differing Degree of Compositional Ordering // *Ferroelectrics* 2016, V. 501, No.1. P.154–164.
5. S.I. Raevskaya, V.V. Titov, I.P. Raevski, A.G. Lutokhin, Yu. N. Zakharov, V.Yu. Shonov, A.V. Blazhevich, E.I. Sitalo, H. Chen, C.-C. Chou, S.A. Kovrigina, M.A. Malitskaya. Bias field effect on the dielectric and pyroelectric response of $\text{Pb}(\text{Fe}_{0.5}\text{Ta}_{0.5})\text{O}_3$ relaxor multiferroic ceramics. // *Ferroelectrics*. 2015, V.475, No.1. P.31-40.
6. A.A. Gusev, I. P. Raevski, E.G. Avvakumov, V.P. Isupov, S.I. Raevskaya, H. Chen, V.V. Titov, C.-C. Chou, S.P. Kubrin, S.V. Titov, M.A. Malitskaya. Dielectric properties of undoped and Li-doped $\text{Pb}(\text{Fe}_{1/2}\text{Nb}_{1/2})\text{O}_3$ ceramics sintered from mechanochemically synthesized powders // *Ferroelectrics*. 2015, V.475, No.1. P.61-67.
7. I.P. Raevski, M.S. Molokeev, S.V. Misyul, E.V. Eremin, A.V. Blazhevich, S.P. Kubrin, H. Chen, C.-C. Chou, S.I. Raevskaya, V.V. Titov, D.A. Sarychev, M.A. Malitskaya. Studies of Ferroelectric and Magnetic Phase Transitions in Multiferroic $\text{PbFe}_{0.5}\text{Ta}_{0.5}\text{O}_3$ Ferroelectrics. 2015, V.475, No.1. P.52-60.
8. A.A. Gusev, S.I. Raevskaya, V.V. Titov, E.G. Avvakumov, V.P. Isupov, I. P. Raevski, H. Chen, C.-C. Chou, S.P. Kubrin, S.V. Titov, M.A. Malitskaya, A.V. Blazhevich, D.A. Sarychev, V.V. Stashenko, S.I. Shevtsova. Dielectric and Mossbauer studies of $\text{Pb}(\text{Fe}_{1/2}\text{Ta}_{1/2})\text{O}_3$ multiferroic ceramics sintered from mechanoactivated powders. // *Ferroelectrics*. 2015, V.475, No.1. P.41-51.
9. I. P. Raevski, S.P. Kubrin, V.V. Laguta, M. Marysko, H. Chen, S.I. Raevskaya, V.V. Titov, C.-C. Chou, A.V. Blazhevich, E.I. Sitalo, D.A. Sarychev, T.A. Minasyan, A.G. Lutokhin, Yu.N. Zakharov, L.A. Pustovaya, I.N. Zakharchenko, M.A. Malitskaya. Comparative studies of ferroelectric and magnetic phase transitions in $\text{Pb}(\text{Fe}_{1/2}\text{Nb}_{1/2})\text{O}_3 - \text{PbMO}_3$ (M-Ti, Zr) multiferroic solid solutions. // *Ferroelectrics*. 2015, V.475, No.1. P.20-30.
10. I.P. Raevski, V.V. Titov, M.A. Malitskaya, E.V. Eremin, S.P. Kubrin, A.V. Blazhevich, H. Chen, C.-C. Chou, S.I. Raevskaya, I.N. Zakharchenko, D.A. Sarychev, S.I. Shevtsova. Studies of ferroelectric and magnetic phase transitions in multiferroic $\text{PbFe}_{0.5}\text{Ta}_{0.5}\text{O}_3 - \text{PbTiO}_3$ solid solution ceramics // *Journal of Materials Science* 2014, V. 49, No. 18, P. 6459-6466. DOI:10.1007/s10853-014-8376-z (IF=2,305).
- 11.
12. I.N. Andryushina, L.A. Reznichenko, V.A. Alyoshin, L.A. Shilkina, S.V. Titov, V.V. Titov, K.P. Andryushin, S.I. Dudkina The PZT system ($\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$, $0.0 < x < 1.0$): Specific features of recrystallization, sintering and microstructures of solid solutions (Part1) // *Ceramics International*. 2013. V.39. P.753-761.

13. I.P. Raevski, N.M. Olekhovich, A.V. Pushkarev, Y.V. Radyush, S.P. Kubrin, S.I. Raevskaya, M.A. Malitskaya, V.V. Titov, V.V. Stashenko. Mössbauer studies of $\text{PbFe}_{0.5}\text{Nb}_{0.5}\text{O}_3$ - $\text{PbFe}_{0.5}\text{Sb}_{0.5}\text{O}_3$ multiferroic solid solutions // *Ferroelectrics*. 2013. V. 444, No. 1, P. 47-52.
14. I.P. Raevski, S.P. Kubrin, S.I. Raevskaya, S.A. Prosandeev, M.A. Malitskaya, V.V. Titov, D. A. Sarychev, A.V. Blazhevich, and I.N. Zakharchenko. Dielectric and Mossbauer Studies of Ferroelectric and Magnetic Phase Transitions in A-Site and B-Site Substituted Multiferroic $\text{PbFe}_{0.5}\text{Nb}_{0.5}\text{O}_3$. // *IEEE Trans. Ultrason. Ferroelect. Freq. Contr.* 2012. V.59, No.9. P. 1872-1878.
15. S.I. Raevskaya, A.G. Lutokhin, A. M. Pugachev, I.P. Raevski, V.V. Titov, Yu.N.Zakharov, D.V. Suzdalev, E.M. Panchenko, S. A. Prosandeev. Bias field effect on the dielectric and pyroelectric response of single crystal of uniaxial relaxor $\text{Sr}_{0.75}\text{Ba}_{0.25}\text{Nb}_2\text{O}_6$ // *Ferroelectrics* 2012. V.440. No.1. P.59-66.
16. A. G. Lutokhin, S. I. Raevskaya, D. V. Suzdalev, Yu. N. Zakharov, I. P. Raevski, V. V. Titov, E. M. Panchenko, M. A. Malitskaya, and I. N. Zakharchenko. Effect of a Bias Field on the Dielectric Properties of NaNbO_3 Solid Solutions in the Range of the Giant Temperature Hysteresis of a Phase Transition // *Bull. Russ. Acad. Sci. Physics*, 2012, Vol. 76, No. 1, pp. 115–117
17. S. I. Raevskaya, C. C. Chou, A. G. Lutokhin, D. V. Suzdalev, Yu. N. Zakharov, E. M. Panchenko, V. V. Titov, I. P. Raevskii, L. A. Reznichenko, and M. A. Malitskaya. Effect of a Bias Electric Field on the Dielectric Properties of Lead-Free $(\text{Na,Sr,Li})\text{NbO}_3$ Ceramics with Diffuse Phase Transition // *Bulletin of the Russian Academy of Sciences. Physics*, 2011, Vol. 75, No. 5, pp. 677–679.
18. E.I.Sitalo, I.P. Raevski, A.G. Lutokhin, A.V. Blazhevich, S.P. Kubrin, S.I. Raevskaya, Yu.N. Zakharov, M.A. Malitskaya, V.V. Titov, I.N. Zakharchenko Dielectric and Piezoelectric Properties of $\text{PbFe}_{1/2}\text{Nb}_{1/2}\text{O}_3$ - PbTiO_3 Ceramics From the Morphotropic Phase Boundary Compositional Range // *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, 2011, v.58, No.9. P. 1914 – 1919.
19. I.P. Raevski, S.P. Kubrin, S.A. Kovrigina, S.I. Raevskaya, V.V. Titov, A.S. Emelyanov, M.A. Malitskaya and I.N. Zakharchenko. The Effect of PbO Nonstoichiometry on Dielectric and Semiconductive Properties of $\text{PbFe}_{0.5}\text{Nb}_{0.5}\text{O}_3$ -Based Ceramics // *Ferroelectrics*. 2010. V. 397. p.96-101.
20. Yu.N.Zakharov, S.I. Raevskaya, A.G. Lutokhin, V.V. Titov, I.P. Raevski, V.G. Smotrakov, V. V. Eremkin, A. S. Emelyanov, A.A. Pavelko. Field-induced enhancement of pyroelectric response of $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$ - PbTiO_3 and $\text{PbFe}_{1/2}\text{Nb}_{1/2}\text{O}_3$ - PbTiO_3 solid solution ceramics // *Ferroelectrics*. 2010. V. 399. p.20-26.
21. S.I. Raevskaya, V.V. Titov, M.A. Malitskaya, I.P. Raevski, L.A. Reznichenko, L.A. Shilkina. Structural and dielectric studies of NaNbO_3 - $\text{A}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ (A-Li,Na,K) solid solutions // *Ferroelectrics*. 2010. V. 399. p.27-34.
22. I. P. Raevski, S. P. Kubrin, S. I. Raevskaya, V. V. Titov, D. A. Sarychev, M. A. Malitskaya, I. N. Zakharchenko, and S. A. Prosandeev. Experimental evidence of the crucial role of nonmagnetic Pb cations in the enhancement of the Néel temperature in perovskite $\text{Pb}_{1-x}\text{Ba}_x\text{Fe}_{1/2}\text{Nb}_{1/2}\text{O}_3$ // *Phys. Rev. B* 2009. V.80, № 2. P.024108-1 -024108-6.
23. V. V. Titov, V. A. Shuvaeva, S. I. Raevskaya, I. P. Raevskii, and S. I. Shevtsova. Optical and Dielectric Studies of Phase Transitions in Single Crystals of NaNbO_3 - $\text{Gd}_{1/3}\text{NbO}_3$ Solid Solutions // *Physics of the Solid State*, 2009, V.51, N. 7, pp. 1473-1474.
24. I.P. Raevski, S.A. Kuropatkina, S.P. Kubrin, S.I. Raevskaya, V.V. Titov, D.A. Sarychev, M.A. Malitskaya, A.S. Bogatin, I.N. Zakharchenko. Dielectric and Mössbauer studies of high-permittivity $\text{BaFe}_{1/2}\text{Nb}_{1/2}\text{O}_3$ ceramics with cubic and monoclinic perovskite structures // *Ferroelectrics*. 2009. V. 379. P.48-54.

25. E.I. Sitalo, Yu.N. Zakharov, A.G. Lutokhin, S.I. Raevskaya, I.P. Raevski, M.S. Panchelyuga, V.V. Titov, L.E. Pustovaya, I.N. Zakharchenko, A.T. Kozakov, A.A. Pavelko. Bias Field Effect on Dielectric and Pyroelectric Properties of $(1-x)\text{Pb}(\text{Fe}_{1/2}\text{Nb}_{1/2})\text{O}_3-x\text{PbTiO}_3$ // *Ferroelectrics*. 2009. V. 389. P.107-113.
26. S. V. Titov, L. A. Reznichenko, O. A. Razumovskaya, V. V. Titov, L. A. Shilkina, and S. I. Shevtsova, Modification of Solid Solutions of the $\text{NaNbO}_3\text{--LiNbO}_3$ System by Different Ions // *Inorganic Materials*, 2009, Vol. 45, No. 3, pp. 291–302.
27. S. I. Raevskaya, Yu. N. Zakharov, A. G. Lutokhin, A. S. Emelyanov, I. P. Raevski, M. S. Panchelyuga, V. V. Titov, and S. A. Prosandeev. Critical nature of the giant field-induced pyroelectric response in $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3-x\text{PbTiO}_3$ single crystals // *Appl. Phys. Lett.* 2008. V.93. № 4.- P. 042903.1-3.
28. S. V. Titov, L. A. Reznichenko, V. A. Chernyshkov, S. I. Shevtsova, V. V. Titov, V. A. Alyoshin, and L. A. Shilkina. Doping of LiNbO_3 and $(\text{Na,Li})\text{NbO}_3$ -Based Solid Solutions // *Bulletin of the Russian Academy of Sciences: Physics*, 2008, Vol. 72, No. 10, pp. 1323–1325.
29. V.V. Titov, V.A. Shuvaeva, S.I. Raevskaya, A.F. Semenchov, A.M. Glazer, S.I. Shevtsova, I.P. Raevski. Studies of domain and twin patterns in NaNbO_3 - $\text{Gd}_{1/3}\text{NbO}_3$ solid solution crystals // *Ferroelectrics* -2008. V.374.
30. S.I. Raevskaya, V.V. Titov, M.A. Malitskaya, L.A. Reznichenko, M.A. Seredkina, I.P. Raevski, J.-L. Dellis. Regularities of relaxor-like properties in sodium niobate-based binary solid solutions // *Ferroelectrics* -2008. V.374.
31. S. V. Titov, L. A. Reznichenko, O. N. Razumovskaya, L. A. Shilkina, V. V. Titov, and S. I. Dudkina Modification of $(\text{Na,Li})\text{NbO}_3$ Solid Solutions with Heterovalent Cations // *Inorganic Materials*, 2007, Vol. 43, No. 7, pp. 770–780.
32. S. V. Titov, A. P. Gorbenko, R. A. Yakshibaev, L. A. Reznichenko, R. F. Al'mukhametov, V. V. Titov, and L. A. Shilkina Ion Conductivity, Structural Features, and Multifractal Properties of Grain Boundaries in $\text{CuCr}_{1-x}\text{V}_x\text{S}_2$ // *Bulletin of the Russian Academy of Sciences: Physics*, 2007, Vol. 71, No. 5, pp. 719–720.