

Ab initio study of GaN properties using VASP software package

Klopov, Mihhail; Kuusk, Ahto; **Velmre, Enn;** **Udal, Andres** BEC 2004 : proceedings of the 9th Biennial Baltic Electronics Conference : October 3-6, 2004, Tallinn, Estonia 2004 / p. 55-58 : ill

Assessing structural bonding aspects of multiband superconductors through impurity-induced local lattice distortions : a case study on MgB₂

Pishtshev, Aleksandr; **Klopov, Mihhail** International journal of quantum chemistry 2013 / p. 643-650 : ill

<https://doi.org/10.1002/qua.24024> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at Scopus](#) [Article at Scopus](#)

A comparative study of structural energetics and chemical bonding in Ca-based dielectric materials : an integrated view from first-principles calculations

Pishtshev, Aleksandr; **Klopov, Mihhail** "Functional materials and nanotechnologies" FM&NT-2012 : 17.-20.04.2012, Riga, Latvia : [abstracts] 2012 / p. 117

Comparison of uncertainty relations in quantum mechanics and signal processing

Udal, Andres; **Kukk, Vello;** **Velmre, Enn;** **Klopov, Mihhail** 11th International Conference on Squeezed States and Uncertainty Relations and 4th Feynman Festival : June 22-26, 2009, Olomouc, Czech Republic : book of abstracts 2009 / p. 135-136

https://jointlab.upol.cz/icssur2009/doc/bookabs_2nded.pdf

Comparison of uncertainty relations in quantum mechanics and signal processing [Electronic resource]

Udal, Andres; **Kukk, Vello;** **Velmre, Enn;** **Klopov, Mihhail** 11th International Conference on Squeezed States and Uncertainty Relations and 4th Feynman Festival : Olomouc, Czech Republic, June 22-26, 2009 : conference proceedings 2009 / [16] p. [DVD]

Conjoined structures of carbon nanotubes and graphene nanoribbons

Krasnenko, Veera; Boltruško, Vadim; **Klopov, Mihhail;** Hižnjakov, Vladimir Physica scripta 2014 / 4 p.: ill <https://doi.org/10.1088/0031-8949/89/04/044008> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Creation of defects and self-localized vibrations in crystal lattices : effects of long-range and nonlinear forces

Klopov, Mihhail; Haas, Mati; Hižnjakov, Vladimir; Shelkan, A. The 23 General Conference of the Condensed Matter Division of the European Physical Society, Varssavi, 2010 2010 / p. 67

Creation of defects and self-localized vibrations in crystals : effects of long-range forces in nonlinear dynamics

Haas, Mati; Hižnjakov, Vladimir; **Klopov, Mihhail;** Shelkan, A. International Conference : FM&NT : Functional Materials and Nanotechnologies 2011 : University of Latvia, April 5-8 : conference program. Book of abstracts 2011 / p. 173

Creation of defects in solids: effect of long-range forces

Hižnjakov, Vladimir; Haas, Mati; **Klopov, Mihhail;** Šelkan, Aleksander Advances in applied physics and materials science congress : 12.-15.05.2011, Antalya, Turkey. Vol. 1 2011 / p. 467

Destabilization criteria of the in-plane Cu c-axis dynamics in cuprate superconductors

Kristoffel, Nikolai; **Klopov, Mihhail** Europhysics letters 2001 / 5, p. 686-690 : ill <https://iopscience.iop.org/article/10.1209/epl/i2001-00110-7/fulltext/6690.html?doi=10.1209/epl/i2001-00110-7>

Discrete breathers above phonon spectrum

Hižnjakov, Vladimir; Haas, Mati; **Klopov, Mihhail;** Šelkan, Aleksander Letters on Materials 2016 / p. 61-72

<https://doi.org/10.22226/2410-3535-2016-1-61-72> [Journal metrics at Scopus](#) [Article at Scopus](#)

Dynamical instability of the apex oxygen by the c-bonds compression in YBaCuO

Klopov, Mihhail; Kristoffel, Nikolai Physica C 1998 / p. 261-264

Dynamical instability of the chain oxygen with softened bonds in the 123-system

Kristoffel, Nikolai; **Klopov, Mihhail;** Rubin, P. Journal of low temperature physics 1996 / 314, p. 849-854

Dynamical stability of chain oxygen with softened bonds in YBa₂Cu₃O_{6+x}

Kristoffel, Nikolai; **Klopov, Mihhail;** Rubin, P. International Conference : Physical and Chemistry of Molecular and Oxide Superconductors, Karlsruhe, August 2-6, 1996 : abstracts 1996

Dynamical stability of the chain oxygen with softened bonds in YBa₂Cu₃O_{6+x}

Kristoffel, Nikolai; **Klopov, Mihhail;** Rubin, P. International Conference "The Role of Dimensionality in Correlated Electronic Systems", Torino, May 6-25, 1996 : abstracts 1996

Effects of long-range forces in nonlinear dynamics of crystals : creation of defects and self-localized vibrations

Haas, Mati; Hižnjakov, Vladimir; **Klopov, Mihhail;** Shelkan, A. IOP conference series : materials science and engineering 2010 / 1, p. 01245 : ill <https://iopscience.iop.org/article/10.1088/1757-899X/15/1/012045>

Efficient defect-driven cation exchange beyond the nanoscale semiconductors toward antibacterial functionalization
Polivtseva, Svetlana; Volobujeva, Olga; Kuznietsov, Ivan; Kaupmees, Reelika; Danilson, Mati; Krustok, Jüri; Molaiyan, Palanivel; Hu, Tao; Lassi, Ulla; **Klopov, Mihhail**; van Gog, Heleen; van Huis, Marijn A.; Kaur, Harleen; Ivask, Angela; Rosenberg, Merilin; Gathergood, Nicholas; Ni, Chaoying; **Grossberg-Kuusk, Maarja** ACS applied materials & interfaces 2024 / p. 62871-62882
<https://doi.org/10.1021/acsami.4c11425> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Electronic and optical properties of magnesium and calcium hydroxides : the role of covalency and many-body effects
Karazhanov, Smagul Zh.; Pishtshev, Aleksandr; **Klopov, Mihhail** Physica Scripta 2015 / art. 094015 <https://doi.org/10.1088/0031-8949/90/9/094015> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Electronic and optical properties of magnesium and calcium hydroxides : the role of covalency and many-body effects
Pishtshev, Aleksandr; Karazhanov, S. Zh.; **Klopov, Mihhail** Joint 12th Russia/CIS/Baltic/Japan Symposium on Ferroelectricity and 9th International Conference Functional Materials and Nanotechnologies : Institute of Solid State Physics, University of Latvia, September 29-October 2, Riga, Latvia : book of abstracts 2014 / p. 258

Electronic excitations and self-trapping of electrons and holes in CaSO₄
Kudrjavitseva, Irina; **Klopov, Mihhail**; Luštšik, Aleksandr Physica scripta 2014 / p. 1-6 : ill <https://doi.org/10.1088/0031-8949/89/4/044013>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Enhanced mobility of high-frequency discrete breathers in a monatomic chain with odd anharmonicity
Šelkan, Aleksander; **Klopov, Mihhail**; Hižnjakov, Vladimir Physics letters A 2019 / p. 1893-1896 : ill
<https://doi.org/10.1016/j.physleta.2019.03.025> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Excitons in Mg(OH)₂ and Ca(OH)₂ from ab initio calculations
Pishtshev, Aleksandr; Karazhanov, S. Zh.; **Klopov, Mihhail** Solid state communications 2014 / p. 11-15 : ill
<https://doi.org/10.1016/j.ssc.2014.05.019> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

First principle calculations of structural, electronic, optical and thermoelectric properties of tin (II) oxide
Solola, G. T.; **Klopov, Mihhail**; Akinami, J. O.; Afolabi, T. A. Materials research express 2019 / art. 125915, 8 p. : ill
<https://doi.org/10.1088/2053-1591/ab6384> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

High frequency intrinsic localized modes in solids: an example of metallic Ni
Hižnjakov, Vladimir; Haas, Mati; **Klopov, Mihhail**; Šelkan, Aleksander Book of abstracts. Programme : 3rd Bilateral Estonian-German Workshop "Strong Nonlinear Vibronic and Electronic Interactions in Solids" : Cottbus, Germany, June 13-15, 2011 2011 / p. 39

Influence of Cu₂S, SnS and Cu₂ZnSnSe₄ on optical properties of Cu₂ZnSnS₄
Mamedov, D.; **Klopov, Mihhail**; Karazhanov, S. Zh. Materials letters 2017 / p. 70-72 : ill <https://doi.org/10.1016/j.matlet.2017.05.069>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Influence of soft modes in the local dynamics of defects (SrTiO₃)
Kristoffel, Nikolai; **Klopov, Mihhail** Physica status solidi. B, Basic solid state physics 1989 / p. K119-K121
https://www.ester.ee/record=b1198778*est

Lattice distortion by impurities in MgB₂
Klopov, Mihhail Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 2006 / 1, p. 53-57 : ill
<https://www.semanticscholar.org/paper/Lattice-distortion-by-impurities-in-MgB2-Klopov/984ee788c900f470944d06adefafa6c5426da577>

Linear local modes induced by intrinsic localized modes in a monoatomic chain
Hižnjakov, Vladimir; Shelkan, A.; **Klopov, Mihhail**; Kiselev, S.A.; Sievers, A.J. Physical review B 2006 / p. 224302-1 - 114302-5
<https://journals.aps.org/prb/abstract/10.1103/PhysRevB.73.224302>

Local dynamics of impurities in perovskites with soft modes
Kristoffel, Nikolai; **Klopov, Mihhail** International conference "Phonons 89" : abstracts 1989 / p. 131

Local dynamics of perovskite ferroelectrics with impurities
Kristoffel, Nikolai; **Klopov, Mihhail** Seventh International Meeting on Ferroelectricity (IMF-7) :August 28-September 1, 1989 : abstracts 1989 / p. 76 <https://www.tandfonline.com/doi/abs/10.1080/07315179008201134>

Local dynamics of perovskite ferroelectrics with impurities
Kristoffel, Nikolai; **Klopov, Mihhail** Ferroelectrics Letters Section 1990 / p. 97-102

Local dynamics of YBa₂Cu₃O_{6+x} and Q(1)-defect dynamical stability
Kristoffel, Nikolai; **Klopov, Mihhail** Physical review B, Condensed matter 1996 / 13, p. 9074-9076
<https://pubmed.ncbi.nlm.nih.gov/9984636/>

Local lattice distortions induced by impurities in MgB₂ : an integrated view from first principle calculations

Klopov, Mihhail; Pishtshev, Aleksandr 14th International Density Functional Theory Conference : Ateena, 2011, 29 August - 02 September 2011 / p. 55

Localized vibrations in perfect anharmonic lattices : trapping on phonos

Hižnjakov, Vladimir; Shelkan, A.; **Klopov, Mihhail**; Sievers, A.J. Journal of luminescence 2008 / 5/6, p. 995-997 : ill
<https://www.sciencedirect.com/science/article/abs/pii/S0022231307003316>

Materials properties of magnesium and calcium hydroxides from first-principles calculations

Pishtshev, Aleksandr; Karazhanov, S. Zh.; **Klopov, Mihhail** Computational materials science 2014 / p. 693-705 : ill
<https://doi.org/10.1016/j.commatsci.2014.07.007> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Modeling of a carbon nanotube junction with ab-initio software VASP

Velmre, Enn; **Klopov, Mihhail**; **Udal, Andres** BEC 2008 : 2008 International Biennial Baltic Electronics Conference : proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 75-78 : ill

Modeling of defect formation and self-localized vibrations in solids

Hižnjakov, Vladimir; Haas, Mati; Šelkan, Aleksander; **Klopov, Mihhail** 2012 Computer Simulation of Radiation Effects in Solids, Santa Fe, New Mexico, USA, June 24-29, 2012 : COSIRES 2012 program book 2012 / p. 24
<https://www.sciencedirect.com/science/article/pii/S0168583X1300222X>

Modeling of photon recycling in GaN-devices

Velmre, Enn; **Udal, Andres**; **Klopov, Mihhail** 5th European Conference on Silicon Carbide and Related Materials : book of abstracts : 31 August-4 September 2004, Bologna, Italy 2004 / p. 317-318
https://www.researchgate.net/publication/250344144_Modeling_of_Photon_Recycling_in_GaN-Devices

Modeling of photon recycling in GaN-devices

Velmre, Enn; **Udal, Andres**; **Klopov, Mihhail** Silicon carbide and related materials 2004 : ECSCRM 2004 : proceedings of the 5th European Conference on Silicon Carbide and Related Materials, August 31-September 4, 2004, Bologna, Italy 2005 / p. 1039-1042 : ill
https://www.researchgate.net/publication/250344144_Modeling_of_Photon_Recycling_in_GaN-Devices

Modeling of photon recycling in GaN-devices

Velmre, Enn; **Udal, Andres**; **Klopov, Mihhail** Material Science Forum. 483/485 2005 / p. 1039-1042
https://www.researchgate.net/publication/250344144_Modeling_of_Photon_Recycling_in_GaN-Devices

Modeling of self-localized vibrations and defect formation in solids

Hižnjakov, Vladimir; Haas, Mati; Pishtshev, Aleksandr; Šelkan, Aleksander; **Klopov, Mihhail** Nuclear instruments and methods in physics research section B-beam interactions with materials and ato 2013 / p. 91-94 : ill
<https://doi.org/10.1016/j.nimb.2013.01.055> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Prediction of high-frequency intrinsic localized modes in Ni and Nb

Haas, Mati; Hižnjakov, Vladimir; Šelkan, Aleksander; **Klopov, Mihhail**; Sievers, A.J. Physical review B 2011 / p. 144303-1 - 144303-8 : ill
<https://journals.aps.org/prb/abstract/10.1103/PhysRevB.84.144303>

Quantum mechanical transforms between x- and k-space as a signal processing problem

Udal, Andres; **Kukk, Vello**; **Velmre, Enn**; **Klopov, Mihhail** BEC 2008 : 2008 International Biennial Baltic Electronics Conference : proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 71-74 : ill
https://www.ester.ee/record=b2150914*est

A role of long-range interaction in ILM properties and defects creation in ionic crystals

Klopov, Mihhail; Hižnjakov, Vladimir; Haas, Mati; Shelkan, A. 13th International Conference on the Applications of Density Functional Theory in Chemistry and Physics : Lyon, France, 31 August - 4 September 2009 2009 / p. 269

Self-consistent potential of intrinsic localized modes : application to diatomic chain

Shelkan, A.; Hižnjakov, Vladimir; **Klopov, Mihhail** Physical review B 2007 / p. 134304-1 -134304-6 : ill
<https://journals.aps.org/prb/pdf/10.1103/PhysRevB.75.134304>

Self-consistent theory of intrinsic localized modes : application to monatomic chain

Hižnjakov, Vladimir; Shelkan, A.; **Klopov, Mihhail** Physics letters A 2006 / 4/5, p. 393-396
<https://www.sciencedirect.com/science/article/pii/S0375960106006372>

Solution-mediated inversion of SnSe to Sb₂Se₃ thin-films

Polivtseva, Svetlana; Kois, Julia; **Kruzhilina, Tatiana**; **Kaupmees, Reelika**; **Klopov, Mihhail**; Molaiyan, Palanivel; van Gog, Heleen; van Huis, Marijn A.; **Volobujeva, Olga** Nanomaterials 2022 / art. 2898
<https://doi.org/10.3390/nano12172898> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Standing and moving discrete breathers with frequencies above the phonon spectrum

Hižnjakov, Vladimir; Haas, Mati; Šelkan, Aleksander; **Klopov, Mihhail** Quodons in mica : nonlinear localized travelling excitations in crystals 2015 / p. 229-245 : ill https://doi.org/10.1007/978-3-319-21045-2_9 [Article collection metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

The interplay of long range interactions and electron density distributions in polar and strongly correlated materials

Kristoffel, Nikolai; Pishtshev, Aleksandr; Rubin, Pavel; **Klopov, Mihhail** Journal of superconductivity and novel magnetism 2017 / p. 91-96 : ill <https://doi.org/10.1007/s10948-016-3765-y> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The Spin-1/2 Heisenberg model on one-third-depleted square lattice: exact diagonalization study

Rubin, Pavel; Pishtshev, Aleksandr; **Klopov, Mihhail** Journal of the Physical Society of Japan 2020 / art. 034707, 4 p <https://doi.org/10.7566/JPSJ.89.034707>

Theory and molecular dynamics simulations of intrinsic localized modes and defect formation in solids

Hižnjakov, Vladimir; Haas, Mati; Šelkan, Aleksander; **Klopov, Mihhail** Physica scripta 2014 / p. 1-5 : ill <https://doi.org/10.1088/0031-8949/89/04/044003> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Transverse intrinsic localized modes in monatomic chain and in graphene

Hižnjakov, Vladimir; **Klopov, Mihhail**; Šelkan, Aleksander Physics letters A 2016 / p. 1075–1081 <https://doi.org/10.1016/j.physleta.2016.01.011> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Влияние псевдо- ян-теллеровских примесей на фазовый переход основания

Kristoffel, Nikolai; **Klopov, Mihhail** Физика твердого тела 1983 / с. 1834-1837 https://www.estser.ee/record=b1258896*est

Локальная динамика кристалла SrTiO₃ с дефектами

Klopov, Mihhail; Kristoffel, Nikolai Физика твердого тела 1988 / с. 3357-3361 https://www.estser.ee/record=b1258896*est

Локальная динамика кристаллов BaTiO₃ и SrTiO₃ с точечными дефектами замещения : диссертация на соискание ученой степени кандидата физико-математических наук

Klopov, Mihhail 1990 https://www.estser.ee/record=b4459466*est

Локальная динамика кристаллов BaTiO₃ и SrTiO₃с точечными дефектами замещения : автореферат ... кандидата физико-математических наук : (01.04.02)

Klopov, Mihhail 1990 https://www.estser.ee/record=b1224934*est

Локальная динамика сегнетоэлектриков с примесными дефектами и проявления мягких мод

Kristoffel, Nikolai; **Klopov, Mihhail** Тезисы докладов XII Всесоюзной конференции по физике сегнетоэлектриков, т. 1 1989 / с. 112

Локальная динамика титаната бария с дефектами

Klopov, Mihhail; Kristoffel, Nikolai Физика твердого тела 1989 / с. 321-322 https://www.estser.ee/record=b1258896*est

Локальная динамика титанатов Sr и Ba с дефектами

Kristoffel, Nikolai; **Klopov, Mihhail** Четырнадцатое Всесоюзное (Пекаровское) совещание по теории полупроводников, Донецк, 3-5 октября 1989 г : тезисы докладов 1989 / с. 141

Термозонд для определения типа проводимости примесных полупроводников

Gavrilov, Aleksei; **Klopov, Mihhail** Приборы и техника эксперимента 1995 / 3, с. 199-200: ил