

Curriculum Vitae

Vladimir Kulinskii

Department of Theoretical Physics, Odessa State University
2 Dvoryanskaya Str.,
65026 Odessa, Ukraine

E-mail: kulinskij@onu.edu.ua
Phone: +38 (048) 7317556
Born 2 November 1968

Educational data:

Sept 1975 - June 1985 Odessa School No 51. Advanced subject Physics

Sept 1985 - June 1987 M.Sc. program in Physics and Theoretical Physics at Physics Faculty and
Department of Theoretical Physics, Odessa State University (USSR)

Sept 1989 - June 1992

July 1987 - June 1989 Army service

Undergraduate research project Collective variables and fluctuations near critical point”

Diploma thesis “Canonical theory for the critical behaviour of 3 dimensional Ising
model”

Oct 1992-Oct 1995 PhD program at Department of Theoretical Physics,
Odessa State University, PhD thesis “Canonical formalism for the
description of the critical phenomena in simple systems”
Supervisor: Prof. N.P. Malomuzh, M.Sc., Ph.D., D.Sc., Soros Prof.

Jan 1996 Ph.D. degree in Phys.& Math.: Theor. Phys.

Academic honors:

1991-1992 I.I. Mechnikov Scholarship of Board of Guardians of Odessa State
University

1993-1995 Scholarship of Council of Ministers of Ukraine for young scientists

1994-1995 G.Soros Scholarship in Physics

2002 Sign of Excellence in National Education

Teaching experience

Oct 1991 - 2001 Advanced courses in Physics and Mathematics for pupils of Richeleu Lyceum of Odessa State University;

The leader of National Team on International Young Physicist Tournament (1994, Groningen, Netherlands, 1996, Zchaltubo, Georgia (CIS), 1998 Donaueshingen, Germany)

Feb 1996 - May 1996 Teaching Assistant in Theor. Mechanics, Electrodynamics and Quantum Mechanics & Special courses: Renormalization group approach to critical phenomena; Selected problems on Statistical Physics, Introd. in Phys. of Superconductivity. for students of Physics Faculty, Odessa State University

Sept. 1996 - 2003 Senior Lecturer at the Department of Theoretical Physics, Physics Faculty, Odessa State University.

Professional data:

Oct 1991 - Sept 1992 Junior Research Fellow at the Dept. of Theor. Phys., Odessa State University.

Feb 1996 -1996 Teaching Assistant at the Department of Theoretical Physics Odessa State University

Sept 1996 – 2001 Senior Lecturer at the Department of Theoretical Physics Odessa State University

Sept 2001 – 2008 Assoc. Prof. at the Department of Theoretical Physics Odessa State University Theoretical research in critical phenomena (simple and complex liquids, electrolytes, self-propelling systems)

May 2008-2011 Doctor of Phys&Math degree Fellow of Physics Faculty, Taras Shevtchenko Kiev National University

Sept. 2011-present Professor of the Department of Theoretical Physics, Physics Faculty, Odessa State University

Theoretical research in phase transitions and critical phenomena: simple and complex liquids, electrolytes and liquid metals; dynamical transitions in the systems of self-propelling or active Brownian particles.

List of publications

Before PhD					
1	Canonical formalism and Renormalization Group	Стаття	Proceedings of the Dubna 1991 Conference on RG'91, P. 120 (World Scientific, Singapore, 1992)	0.5	N.P. Malomuzh B.A. Veytsman
2	Приведение затравочного гамильтониана простых систем вблизи критической точки к канонической форме	Стаття	Укр. Физ. Журн., 38 (1993), P. 454	0.5	
3	Канонический формализм описания критических явлений в простых системах	Стаття	Укр. Физ. Журн., 38 (1993), P. 1871	0.5	
4	Canonical Renormalization Group equations and the critical exponents	Стаття	Third Int. Conf RENORMALIZATION GROUP'96, Dubna. Editors: D.V. Shirkov, D.I. Kazakov, V.B. Priezzhev. Dubna 1997	0.62	N.P. Malomuzh
5	Nature of the asymmetry of the equation of state near critical points in the liquid with hydrogen bonding	Стаття	Journal of Molecular Structure 381 (1996), P. 199	0.5	N.P. Malomuzh
After PhD					
1	<i>Canonical formalism for description of critical phenomena in systems isomorphic to simple liquids</i>	Стаття	Journ. Cond. Matter Physics (Ukraine), 4 , (1997), pp. 29-46	1.1	N.P. Malomuzh
2	<i>Influence of charge fluctuations on the critical behavior of electrolyte solutions</i>	Стаття	Phys. Rev. E 60 , (1999), pp. 6897 http://dx.doi.org/10.1103/PhysRevE.60.6897	0.62	N.P. Malomuzh V. A. Tolpekin
3	<i>Critical behavior of ionic liquids</i>	Стаття	Phys. Rev. E 65 , (2002), pp. 061506-061513 http://link.aps.org/abstract_prev65/e061506	0.5	N.P. Malomuzh
4	<i>Dipole fluid as a basic model for the equation of state of ionic liquids in the vicinity of their critical point</i>	Стаття	Phys. Rev. E 67 , (2003), pp. 011501 http://dx.doi.org/10.1103/PhysRevE.67.011501	0.5	N.P. Malomuzh
5	<i>Nonperturbative construction of the Landau-Ginzburg Hamiltonian for the Ising-like systems</i>	Стаття	J. Mol. Liq., 105/2-3 , (2003), pp. 273-278 http://dx.doi.org/10.1016/S0167-7322(03)00067-9	0.48	Одноосібно
6	<i>Polarizational effects and the critical behavior of systems with Coulombic interactions</i>	Стаття	J. Phys. Stud. (Ukraine), 7 , (2003), pp. 50 – 78	1.63	N.P. Malomuzh
7	<i>Ефективний гамільтоніан системи в околі трикритичної точки</i>	Стаття	Вісник Львівського Університета 38 (2005), pp. 175-182	0.5	В.І. Рагушная

8	<i>Nature of double critical points in binary solutions</i>	Стаття	Phys. Rev. E, 69 , (2004), pp. 011501 http://link.aps.org/janus.libr.tue.nl/doi/10.1103/PhysRevE.69.011501	0.75	A.I. Fisenko N.P. Malomuzh
9	<i>Collective behavior in the system of self propelling particles with kinematic constraints</i>	Стаття	Europhys. Lett., 71 (2005), pp. 207-213	0.44	V.I. Ratushnaya, A.V. Zvelindovsky D. Bedeaux
10	<i>Hydrodynamic Model for the System of Self Propelling Particles with Conservative Kinematic Constraints; Two dimensional stationary solutions</i>	Стаття	Physica A 366 (2006), pp. 107-114.	0.5	V.I. Ratushnaya, A.V. Zvelindovsky D. Bedeaux
11	<i>Collective behavior of self propelling particles with kinematic constraints; The relation between discrete and continuous description</i>	Стаття	Physica A 381 (2007), pp. 39-46	0.5	V.I. Ratushnaya, A.V. Zvelindovsky D. Bedeaux
12	<i>Stability properties of the collective stationary motion of self-propelling particles with conservative kinematic constraints.</i>	Стаття	J. Phys. A: Math. Theor. 40 (2007), pp. 2573-2581	0.56	V.I. Ratushnaya, A.V. Zvelindovsky D. Bedeaux
13	<i>The kinetic regime of the Vicsek model</i>	Стаття	AIP Conference Proceedings Subseries: Mathematical and Statistical Physics 1198 (2009), pp. 25-33 http://link.aip.org/link/?APC/1198/25/1 DOI: 10.1063/1.3284421	0.5	A. A. Chepizhko
14	<i>On the relation between Vicsek and Kuramoto models of spontaneous synchronization</i>	Стаття	Physica A, 389 (2010) pp. 5347-5352 http://dx.doi.org/10.1016/j.physa.2010.08.016	0.33	A. A. Chepizhko
15	<i>Properties of water near its critical point</i>	Стаття	Proceedings of the NATO Advanced Research Workshop on Soft Matter under Exogenic Impacts: Fundamentals and Emerging Technologies, Odessa, Ukraine, 8-12 October 2005 242 , (2007), pp. 287-304 Springer	1	N.P. Malomuzh
16	<i>The nature of the rectilinear diameter singularity</i>	Стаття	Physica A, 388 (2009) pp. 621-627 http://dx.doi.org/10.1016/j.physa.2008.11.014	0.5	N.P. Malomuzh
17	<i>Is the thermodynamic behavior of the noble fluids consistent with the Principle of Corresponding States?</i>	Стаття	Physica A, 388 (2009) 4560-4572 http://dx.doi.org/10.1016/j.physa.2009.07.011	0.75	N.P. Malomuzh O.I. Matvejchuk
18	<i>Simple geometrical interpretation of the linear character for the Zeno-line and the rectilinear diameter</i>	Стаття	J. Phys. Chem. B, 114 (2010) 2852-2855 http://pubs.acs.org/doi/full/10.1021/jp911897k	0.2	Одноосібно
19	<i>Діаметр бінодали атомарних та молекулярних рідин в термінах ентропія-</i>	Стаття	Ukrainian Journal of Physics 2010, Vol.55, N 6, p.685-693 http://www.ujp.bitp.kiev.ua/files/file/pa	0.5	Л.А. Булавін

	<i>температура</i>		pers/55/6/550605p.pdf		
20	<i>Global isomorphism between the Lennard-Jones fluids and the Ising model</i>	Стаття	J. Chem. Phys, 133 (2010) 034121 , http://link.aip.org/link/?JCP/133/034121/1		Одноосібно
21	<i>Сингулярність діаметра бінодалі атомарних та молекулярних рідин в термінах ентропія-температура</i>	Стаття	УФЖ, 55 (2010) pp. 1283-1289		Л.А. Булавін М.П. Маломуж
22	<i>Peculiarities in the behavior of the entropy diameter for molecular liquids as the reflection of molecular rotations and the excluded volume effects</i>	Стаття	J. Mol. Liq. 161 (2011) pp. 19-29 http://dx.doi.org/10.1016/j.molliq.2011.03.016		L.A. Bulavin N.P. Malomuzh
23	<i>Generalized principle of corresponding states and the scale invariant mean-field approach</i>	Стаття	J. Chem. Phys. 133 (2010) 134101, http://link.aip.org/link/JCPSA6/v133/i13/p134101/s1		L.A. Bulavin
24	<i>The application of the global isomorphism to the study of liquid-vapor equilibrium in two and three dimensional Lennard-Jones fluids</i>	Стаття	J. Chem. Phys. 133 (2010) 131102, http://link.aip.org/link/?JCP/133/131102/1	0.2	одноосібно
25	<i>New version of the fluctuation Hamiltonian for liquids near the critical point</i>	Стаття	Journal of Molecular Liquids 158 166-169 (2011) http://dx.doi.org/10.1016/j.molliq.2010.11.013	0.2	N.P. Malomuzh
26	<i>The Vliegenthart-Lekkerkerker relation. The case of the Mie-fluids</i>	Стаття	The Journal of Chemical Physics 135 (2011) pp. 144111 http://jcp.aip.org/resource/1/jcpsa6/v134/i14/p144111_s1	0.33	Одноосібно
27	<i>The Unified picture for the Classical Laws of Batschinski and the Rectilinear diameter for Molecular Fluids</i>	Стаття	Journal of Physical Chemistry B 115 (2011) pp. 6061–6068 http://dx.doi.org/10.1021/jp201872f	0.48	Bulavin L.A.

Основні навчально-методичні роботи (за період науково-педагогічної діяльності)

№ п/п	Назва	Характер роботи	Вихідні дані	Обсяг (друк. арк.)	Співавтори
1	Mechanics of adiabatic process of ideal gases and equation of state	Навч.-метод. стаття	Journ. Phys. Compet. (ISSN 1389-6458), 4, № 1, (2002)	0.25	одноосібно
2	The equilibrium shapes of rotating massive rope	Навч.-метод. стаття	Journ. Phys. Compet. (ISSN 1389-6458), 4, № 2, (2002)	0.3	одноосібно
3	Конспект лекційного курсу "Квантова теорія"	Навч. посібник	К 903, ББК 22.314&73 УДК 530.145(075.8) Зам. № 787/1 Одеса: Астропринт-2002	5.81 др. арк	одноосібно
4	Додаткові лекції з основ квантової інформатики	Навч. посібник	К 903, ББК 22.314&73 УДК 530.145(075.8) Зам. № 787/2 Одеса: Астропринт-2002	1.63 др. арк	одноосібно
5	Twin paradox from the Special Relativity point of view only	Навч.-метод. Стаття	Journ. Phys. Compet. (ISSN 1389-6458), 5, № 1, (2003)	0.3	одноосібно
6	Методичні вказівки за рішенням задач за курсом „Квантова теорія” Частина 1	Навч. посібник	Одеса Астропринт 2005	1.63	одноосібно
7	A solitary wave	Навч.-метод. стаття	Journ. Phys. Compet. (ISSN 1389-64586458) 8, № 1 (2006) pp. 62-69	0.45	О.І. Matvijchuk