



Georgian National Academy of Sciences

ფორმ

Personal Data (CV)

Surname	Khelashvili	First Name	Anzor
Address (work, home)	(work) I.Chavchavadze ave. 53	Date and place of birth	19.08.1938 Kardanakhi, Gurjaani r-n
Citizenship	Georgian	Telephone number(s)	(h)2235163; (m)599172775
E-mail	anzorkhelashvili@hotmail.com		

3. Education

Education	Institution	Learning Time
Secondary	middle school N7, Tbilisi	1946-1957
Higher	Tbilisi State University (TSU)	1957-1962
Postgraduate study, doctoral candidacy	TSU and JINR, Dubna (Russia)	1962-1965

4. Knowledge of Languages

Foreign languages	Level of language proficiency (fluent, intermediate, beginning with the help of a dictionary)
Russian	fluent
English	intermediate
Italian	intermediate

5. Scientific or Academic Degree and Rank

	Title of the thesis	Date of conferment
Ph.D. thesis	Some Problems of Potential Scattering Theory	24.10.1967
Doctoral thesis	Chiral Symmetry and Quasipotential Equations in Hadron Dynamics	23.09.1983
Academician Doctor	Doctor of Theoretical and Mathematical Physics	
Professor	In Chair of General Physics	
Corresponding Member of the Academy	Section of Mathematics and Physics	
Member of the Academy		

6. Work Experience

Date	Institution	Position
1965-1969	Scientific Laboratory of Nuclear Physics of Physics Faculty of TSU	minor scientist
1969-1973	Scientific Laboratory of Nuclear Physics of Physics Faculty of TSU	major scientist
1973-1981	High Energy Scientific Laboratory of Physics Faculty of TSU	Head of Section of Elementary Particle Physics
1981-1986	High Energy Physics Institute of TSU	Head of Laboratory of Quantum Field Theory
1986-1995	Faculty of Physics and High Energy Physics Institute of TSU	Head of Chair of General Physics and Major Scientist
1995-2006	Faculty of Physics and High Energy Physics Institute of TSU	Head of Chair of Theoretical Physics and Major Scientist
2006-2010	Faculty of Natural Sciences and HEPI of TSU	Full Professor and Major Scientist
2010- now	HEPI of TSU	Major Scientist

6.1 Teaching Activity

Date	Institution	Position
1973-1986	Physics Faculty of TSU	Major Scientist (Docent)
1986-1995	Physics Faculty of TSU	Head of Chair of General Physics
1995-2006	Physics Faculty of TSU	Head of Chair of Theoretical Physics
2006-2010	Faculty of Natural Sciences of TSU	Full Professor under Contract
2009-now	Georgian University of Patriarchy of Georgia	Full Professor

6.2 Work Abroad

Form of activity	Date	Place and Institution
Delivering a course of lectures at foreign higher education institutions	06.12.1989	Theor.Phys. Group; Imperial College, London, SWZ 2BZ
	25.11.1995	Dept.Theor. Phys. Univ. of Oxford, oxford OXI 3NP
	02.12.1995	Dept. of Phys; Univ. of Chicago, Chicago II
	04.12.1995	Dept. of Physics; Illinois Inst. Technology, Chicago II
	15.07.2013	Dept. of Physics; Illinois Inst. Technology, Chicago II
Long-term academic mission to research institutions	20.04.05-25.05.06	Dept. of Physics; Illinois Inst. Technology, Chicago II
	12.07.2013-12.08.2013	Dept. of Physics; Illinois Inst. Technology, Chicago II
Other		

7. Sphere of Scientific Interests

Elementary Particle Physics
Quantum Field Theory
Theoretical and Mathematical physics
Quantum mechanics

8. Publications (Total number, indicating the Citation Index (*number*))

Total number - 126; citations - 1270

8.1 Monographs

Years	
2008	Feynmann Functional Integral and some of its Applications; 2008, 148 p.
2008	Dynamical Symmetry of the Kepler-Coulomb Problem in Classical and Quantum Mechanics (Non-relativistic and Relativistic), Inc. New york, 156 p.
2008	Light-Front Formalism for Composite Systems and some of its Applications in Particle and Nuclear Physics; Physics Reports, Vol. 45B, pp:247-300
2010	Academician Albert Tavkhelidze, 175 p, (in Georgian)
2012	The Future belongs him,... (in memory of acad. A. Tavkhelidze), 146 p

8.2 Principal Papers (no more than 50); [See Enclosure 8.2](#)

Years	

8.3 Textbooks, Additional Manuals, and other Methodological Literature and Training means

Years	
2005	Classical Theoretical Mechanics, TSU; 225 p. (in Georgian)
2007	Spin Physics: Deep Inelastic Processes and the Polarisation Phenomena. Tb., 113 p. (in Georgian)

8.4 Electronic Publications

Years	Title	Address of Source
2012	General Physics for Mathematician Students	www://sangu.ge

8.5 Participation in Scientific Symposiums, Conferences for the last ten years

Years	Title	Name of Event
2006	Supercharge Operator of Hidden Symmetry in the Dirac Equation	Int. Conf. on High Energy Physics, CICHEP II-Cairo Egypt
2007	Dynamical Symmetries in the Dirac Equation	Int. Conf."New Trends in High Energy Physics", Yalta (Russia)
2007	Dynamical Symmetries in the Dirac Equation	Int. Conf. on SUSY, in memory of V.I.Ogievetsky,

9. Organizational Work (Holding of Congresses and Conferences, Editorial Work)

Years	Name
2009 -now	Georgian Electronic Scientific Journal

10. Inventions (Author's Certificate, Patents)

Years	Name

11. International and Local Scientific grants

Years	Name
2012 -2015	Volkswagen Int. Grant "Virtual Institute"
2012-2014	2 grants of the Rustaveli Foundation on "Quantum Chromodynamics"

12. Scientific-Commercial Activity, author's certificate, Implementation

Years	Name

13. Other Activities

	Name	Years
Supervision of Theses and Masters work	Supervisor of 10 candidate thesis, consultant of 1 doct. thesis and supervisor of 30 Master works	1975 2001 1966-2011
Participation in International, State and Regional Programs		

14. Awards and Prizes, Honorary Title

Date	Name of Awards, Prizes, Honorary Title	
1983	Prize of P.melikishvili	
1998	Order of worthy	
1998	professor of the Soros Foundation	
2002	Gold medal of Friedrich Nansen	
2005	Gold Medal of Ivane Javakhishvili	
2009	Georgian National Award in Science	
2010	Ilia Vecua acad. Award in Physics and Mathematics	
1998	Membership of American National Academy	
2002	Membership of AAPT	

15. Family Status

widower, 3 children and 3 grandchildren

Enclosure 8.2

Principal Papers

Title	Edited or manuscript	Journal	Year, N, page	Coauthors
Asymptotic Relations Between Cross Sections for the Baryon Resonance Production		Nuclear Physics	1966 76 551-555	Nguen Van Khieu, K.V.Rerikh
Лептонные распады барионов в универсальной V-A теории		Ядерная Физика	1966 3, B5 910-917	
Алгебры токов и дисперсионные		ДАН СССР	1966	А.В.Ефремов,

	соотношения			168 316-317	В.А.Матвеев А.Н. . Тавхелидзе
	Asymptotic Relations Between Cross Sections for the Baryon Resonance Production		Nuclear Physics	1966 76 551-555	Nguen Van Khieu, K.V.Rerikh
	Алгебры токов и дисперсионные соотношения		ДАН СССР	1966 168 316-317	А.В.Ефремов, В.А.Матвеев А.Н. . Тавхелидзе
	Лептонные распады барионов в универсальной V-A теории		Ядерная Физика	1966 3, B5 910-917	“—————”
	Нарушенная симметрия $\tilde{U}(12)$ и условие унитарности S-матрицы		Ядерная Физика	1966 3, B6 1111- 1118	О.Г.Боков, Нгуен Ван Хъеу, К.В.Рерих
	Об уравнениях для амплитуд рассеяния в квантовомеханической задаче трех частиц		Препринт ОИЯИ	1967 P2-3371 3-17	
	Квазипотенциальное уравнение для системы двух частиц со спином 1/2		Препринт ОИЯИ	1969 P2-4327 3-17	
0	Условие нормировки для одновременной волновой функции связанного состояния двух частиц		Ядерная Физика	1969 10, 1085- 1088	Р.Н.Фаустов
1	Квазипотенциальное уравнение для системы двух частиц со спином 1/2		Препринт ОИЯИ	1969 P2-4327 3-17	
2	Сигма модель для 0^\pm -мезонов и описание формфакторов K_{l3} -распада		Школа Молодых Ученых по Физике Высоких Энергий, Сухуми, 1972	1972 305-332	
3	Представление (1.8)+(8.1) в гамильтониане адронов на примере SU(3) сигма модели		Межд. Конференция по математическим вопросам квантовой теории поля и квантовой статистики (Москва,1972) Труды Мат. Института им. Стеклова	C136 312-320	
4	Remarks on the supercharge operator of hidden symmetry in the Kepler problem		Proceedings of Int. Conference on High Energy Physics SICHEP II, (13-19 Jan. 2006. Cairo,Egypt)	2006	T.Khachidze
5	Исследование модели нарушения киральной симметрии для 0^\pm -мезонов		ТМФ	1973 14 314-324	
6	Перенормировка $SU(3) \times SU(3)$ сигма модели для 0^\pm -мезонов с линейным нарушением		ТМФ	1973 15 78-90	В.Ю.Хмаладзе
7	Исследование неаналитичности в пределе киральной симметрии в SU(3) сигма модели		ТМФ	1975 23421- 426	В.Ю.Хмаладзе
8	Квазипотенциальное уравнение в квантовой теории поля на нуль-плоскости и формфакторы составных спинорных частиц		Сообщения ОИЯИ	1975 P2-8750 3-30	
9	Tree approximation treatment of the chiral symmetry breaking mechanisms in generalized σ -model and the slope of K_{l3} form factors		Nuclear Physics,B	1975 90, 336-348	

0	Спектральные и проекционные свойства двухвременных функций Грина n-частиц в квантовой теории поля на нуль плоскости		ТМФ	1976 <u>29</u> <u>3-18</u>	А.Н.Квинихидзе, В.А.Матвеев, А.Н.Тавхелидзе
1	Инвариантные свойства слабых взаимодействий и угол Кабиббо в киральной динамике		ТМФ	1978 <u>36</u> 324-334	
2	Калибровочно-инвариантное приближение Дельбурго и пропагатор глюона		Межд. Семинар "Кварки-80"	1980 <u>4</u> <u>112-115</u>	
3	Представление Дельбурго и пропагатор глюона в светоподобной калибровке		ТМФ	1981 <u>46</u> 225-231	
4	Радиальное квазипотенциальное уравнение для фермиона и антифермиона и бесконечно-растущие центральные потенциалы		ТМФ	1982 <u>51</u> 201-210	
5	Many-body problem with logarithmic potential and baryon masses		in "Few-Body Problems in Physics", IX European Conference, 1984 (Tbilisi)	1984,Ed .Singapore, 36-37	V.Yu.Khmaladze, N.D.Tschaschava
6	Модель релятивистской проблемы связанного состояния двух фермионов с бесконечно растущими потенциалами		ТМФ	1984 <u>61</u> 431-441	З.К.Силагадзе
7	Многочастичная задача с логарифмическими потенциалами и ее примерение к связанным состояниям кварков		ТМФ	1985 <u>62</u> 136-143	В.Ю.Хмаладзе, Н.Д.Чачава
8	Спектры мезонов и барионов в модели с логарифмическими потенциалами		"Кварки-84", том 2	1985 175-180	В.Ю.Хмаладзе, Н.Д.Чачава
9	Gluon propagator at large distances in the Light-like gauge		"Quarks-86" (Ed. Singapore)	1986	К.Р.Натрошвили, V.Yu. Khmaladze.
0	Полный пропагатор глюона в светоподобной калибровке и вопрос поперечности поляризационного оператора в инфракрасной области, I		ТМФ transl. TMF, <u>V.80</u>	1989 <u>80</u> 264-273	Л.Г.Вачнадзе, В.Ю.Хмаладзе, К.Р.Натрошвили
1	Quasipotential equation and the parton description		"Quarks-88", World Scient. Singapore	1988, 3-10	A.N.Kvinikhidze, A.N. Tavkhelidze
2	Условие Лежандра и вопрос стабилизации солитонных решений в обобщенных моделях Скирма		ТМФ transl. TMF, <u>V.83</u>	1990 <u>83</u> 51-56	Н.А.Кикнадзе
3	On Gauge Invariance of the Z-boson Mass		"Quarks-92", Ed. Singapore, 1993	"1993 pp.391-	J.T.Gegelia, G.Dzhaparidze

				402	A.G.Tkabladze K.Sh.Turash
4	The Physical Mass of a Fermion and the prescription for the Axial Denominators		Proc.of XII-Int.Conf . “Problems on High-Energy Physics and QFT”, Moscow	1991 187-195	G.Dzhaparidze K.Sh.Turash- vili
5	Parity preserving Pauli-Villars regularization in 2+1 dimensional gauge models		Ядерная Физика Sov.Journ.”Nucl.Physics”	1995 <u>58</u> 1619- 1621	“ _____ ” L.Baboukhadia N.A.Kiknadze
6	Total gluon propagator in the light-like gauge and the transversality problem of polarization operator in the infrared region, II		TMΦ- transl. TMF	1994 <u>100</u> 14-24	N.A.Kiknadze, K.SH.Turash- vili, L.G.Vachnad- ze
7	Singular Power-Like IR Asymptotic behaviour of the gluon propagator in the covariant gauge		TMΦ- transl. TMF	1995 <u>102</u> 34-39	N.A.Kiknadze, L.G.Vachnad- ze
8	Von Neumann-Wigner type potentials and the wave function asymptotics for discrete levels in continuum		Journ. Physics A, Math. and General	1996 <u>29</u> <u>3209-</u> <u>3212</u>	N.A.Kiknadze
9	Bound states in continuum induced by relativity		Phys. Rev. A	1997 <u>A55</u> <u>2552-</u> <u>2557</u>	N.A.Kiknadze
0	On regularization scheme and gauge choice ambiguities in topologically massive gauge theories		Phys.Rev. D	1997 <u>D55</u> 3897- 3899	J.T.Gegelia, N.A.Kiknadze
1	An “accidental” symmetry operator for the Dirac equation in the Coulomb potential		Modern Phys. Letters, A	2005 <u>A20</u> <u>2277-</u> <u>2281</u>	T.T.Khachidze
2	The hidden symmetry of the Coulomb problem in relativistic quantum mechanics: From Pauli to Dirac		American Journal of Physics	2006 <u>74</u> 628-632	T.T.Khachidze
3	Algebraic derivation of the spectrum of the Dirac Hamiltonian for an arbitrary combination of the Lorentz-Scalar and Lorentz-Vector Coulomb Potential		Ukr. Physical Journal	2007 <u>5</u> , N5. p.421- 423	T.Khachidze
4	N=2 Supersymmetry in the Dirac Equation – possible motivation for Coulomb Potential		Proc. SQS-07	2007	T.Khachidze
5	An “accidental” symmetry operator for the Dirac equation in the Coulomb potential		Modern Phys. Letters, A	2005 <u>A20</u> <u>2277-</u> <u>2281</u>	T.T.Khachidze
6	The hidden symmetry of the Coulomb problem in relativistic quantum mechanics: From Pauli to Dirac		American Journal of Physics	2006 <u>74</u> 628-632	T.T.Khachidze
7	Light-Front Formalim for Comosite Systems and some of its Application in Particle and Nuclear Physics		Physics Reports, Vol.458, #6 pp.247-300 (2008)	2008, 458, 247-300	V.Garsevani- shvili, Z. Mentesha- shvili, M.Nioradze

8	Dynamical Symmetries of the Kepler-Coulomb Problem in Classical and Quantum Mechanics (Non-relativistic and Relativistic)		Nova Publishers, New York,208	2008	T.Khachidze
9	What is the boundary condition for the radial wave function of the Schrodinger equation		Am. J. Phys.,79: 668-671	2011	T.Nadareishvili
0	Coulomb potential as a consequence of supersymmetry in the Dirac equation		Int. Journal of Qafqaz University, Fizik, N33, 2012 pp.34-45	2012	T.Khachidze
1	Generating functional for mesonic ChPT with virtual photons in a general covariant gauge		Int.J. for High Energy Physics Eur.Phys. J.A V.49:120 Springer	2013	A.Agajanov, D.Agajanov and A.Rusetsky