

Amir Aghamohammadi

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Tehran, Iran.

Homepage: My Google Scholar, My homepage

PERSONAL INFORMATION

- Birth date: 1962/02/28
- Birth place: Tehran, IRAN
- Nationality: Iranian
- Marital Status: Married, two children

EDUCATION

- 🎓 BSc of physics; **Shiraz University**, Shiraz, IRAN 1977/10-1985/06
- 🎓 MSc of physics: **Sharif University of Technology**, Tehran, Iran 1985/10-1988/06
M.Sc. Thesis Title: Neutrino mass Supervisor: M. Golshani
- 🎓 PhD of physics: **Sharif University of Technology**, Tehran, Iran 1988/10-1993/02
Ph. D. Thesis Title: Nonstandard deformation of A_n , B_n , C_n , D_n series, and the super algebra $sl(n|m)$ Supervisor: S. Rouhani

EMPLOYMENT

- Researcher in the Institute for Studies in Theoretical Physics and Mathematics (IPM), Tehran, IRAN: 1993-2001
- Head of physics department, Institute for Studies in Theoretical Physics and Mathematics (IPM), Tehran, IRAN: 1996-1998
- Leader of Iranian physics olympiad team in International Physics Olympiad competitions:
 - Canada 1997
 - Iceland 1998
 - Itali 1999
 - Singapore 2006
- Head of Science faculty, Alzahra university: 2000-2002
- Member of the evaluation committee of the Alzahra university, 2001-2009, 2012-
- Assistant professor in Alzahra University, Tehran, IRAN: 1993- 1999
- Associate professor in Alzahra University, Tehran, IRAN: 1999- 2003
- Professor of physics in Alzahra University, Tehran, IRAN: 2003-
- Co-founder and co-editor of the Gamma journal (2004-). The first national physics journal in education, devoted to the advancement of the physical education in Iran (something like American Journal of Physics). <http://www.gammajournal.ir>

HONORS AND AWARDS

- Distinguished award of the **Physics Society of Iran** for the Phd dissertation; Multiparametric quantization of groups (1993)

RESEARCH INTERESTS

- Statistical physics
- stochastic processes
- conformal and logarithmic-conformal field theories
- integrability and quantum groups

- (1) A. Aghamohammadi, V. Karimipour & S. Rouhani;
The multiparametric non-standard deformation of A_{n-1} ,
Journal of Physics **A26** (1993) L75-L82.
- (2) V. Karimipour & A. Aghamohammadi;
Multiparametric quantization of the special linear superalgebra;
Journal of Mathematical Physics **34**, 6 (June 1993) 2561-2571
- (3) A. Aghamohammadi;
A new non-standard quantum supergroup;
Journal of Physics **A26** (1993) 6973-6979
- (4) A. Aghamohammadi;
The two-parametric extension of \hbar deformation of $GL(2)$, and the differential calculus on its quantum plane;
Modern Physics Letters **A8**, 27 (1993) 2607-2613
- (5) A. Aghamohammadi, V. Karimipour & A. R. Nezami;
Non-standard deformation of B_n series;
Journal of Physics **A27** (1994) 1609-1616
- (6) A. Aghamohammadi, S. Rouhani & A. Shariati;
Inhomogeneous quantum groups related to two-dimensional quantum planes;
Journal of Physics **A27** (1994) 7103-7113
- (7) M. Khorrami, A. Shariati, M. R. Abolhassani, & A. Aghamohammadi;
A triangular deformation of the two-dimensional Poincare algebra;
Modern Physics Letters **A10**, 11 (10 April 1995) 873-883
- (8) A. Aghamohammadi, M. Khorrami & A. Shariati;
Jordanian deformation of $SL(2)$ as a contraction of the Drinfeld-Jimbo deformation of $SL(2)$;
Journal of Physics **A28**, 8 (21 April 1995) L225-L231
- (9) A. Shariati & A. aghamohammadi; A simple method for constructing the inhomogeneous quantum group, $IGL_q(n)$ and its universal enveloping algebra $U_q(igl(n))$;
Journal of Mathematical Physics **36**, 12 (December 1995) 7103-7108
- (10) A. Shariati, A. Aghamohammadi, & M. Khorrami;
The universal R matrix for the Jordanian deformation of $sl(2)$, and the contracted forms of $so(4)$;
Modern Physics Letters **A11**, 3 (30 January 1996) 187-197
- (11) A. Aghamohammadi, M. Khorrami & A. Shariati;
Toda theories as contractions of affine Toda theories;
Physics Letters **B389**, 2 (12 December 1996) 260-263
- (12) M. Khorrami, A. Shariati & A. Aghamohammadi;
 $SL_h(2)$ -symmetric torsionless connections;
Letters in Mathematical Physics **40**, 1 (April 1997) 95-99
- (13) A. Aghamohammadi, M. Alimohammadi & M. Khorrami;
A pseudo-conformal representation of the Virasoro algebra;
Modern Physics Letters **A12**, 18 (14 June 1997) 1349-1353
- (14) M. R. Rahimi Tabar, A. Aghamohammadi & M. Khorrami;
The logarithmic conformal field theories;
Nuclear Physics **B497**, 1,2 (21 June 1997) 541-554
- (15) A. Alimohammadi, M. Khorrami, & A.Aghamohammadi;
Large N limit of the generalized two-dimensional Yang-Mills theories;
Nuclear Physics **B510**, 1,2 (19 January 1998) 313-323
- (16) M. Khorrami, A.Aghamohammadi, & M. R. Rahimi Tabar;
Logarithmic conformal theories with continuous weights;
Physics Letters **B419**, 1-4 (12 February 1998) 179-185

- (17) M. Khorrami, A. Aghamohammadi, & M. Alimohammadi;
Derivation of quantum theories:
Symmetries and the exact solution of the derived system;
International Journal of Modern Physics A **13**, 16 (30 June 1998) 2833-2840
- (18) M. Khorrami, A. Aghamohammadi, & A. M. Ghezelbash;
Logarithmic N=1 superconformal field theories;
Physics Letters B **439**, (1998) 283-288
- (19) M. Khorrami & A. Aghamohammadi;
Derivation of theories: structures of the derived system in terms of those of the original system
in classical mechanics;
Il Nuovo Cimento B **113**, 11 (November 1998) 1361-1371
- (20) A. Aghamohammadi, M. Alimohammadi, & M. Khorrami;
Uniqueness of the minimum of the free energy of the 2D Yang-Mills theory at large N;
Modern Physics Letters A **14**, 12 (10 April 1999) 751-758
- (21) A. M. Ghezelbash, M. Khorrami, & A. Aghamohammadi;
Logarithmic conformal field theories and AdS correspondence;
International Journal of Modern Physics A **14**, 16 (30 June 1999) 2581-2591
- (22) A. Aghamohammadi, A. H. Fatollahi, M. Khorrami & A. Shariati;
Multispecies reaction-diffusion systems;
Physical Review E **62**, 4 (October 2000) 4642-4649
- (23) A. Aghamohammadi & M. Khorrami;
Similarity transformation in one-dimensional reaction-diffusion systems: the voting model as
an example;
Journal of Physics A **33**, 44 (10 November 2000) 7843-7856
- (24) M. Khorrami & A. Aghamohammadi;
Phase transition in an asymmetric generalization of the zero-temperature Glauber model;
Physical Review E **63**, (2001) 0421021 (1-4)
- (25) N. Majd, A. Aghamohammadi & M.Khorrami;
Phase transition in an asymmetric generalization of zero-temperature q-state Potts model;
Physical Review E **64**, (2001) 046105 (1-5)
- (26) M. Alimohammadi, A. Aghamohammadi & M.Khorrami;
Exactly solvable models through the empty interval method;
Physical Review E **64** (2001) 056116 (1-6)
- (27) A. Aghamohammadi & M.Khorrami;
Phase transitions in autonomous reaction-diffusion systems on a one-dimensional lattice with
boundaries;
Journal of Physics A **34** (2001) 7431-7439
- (28) A. Shariati, A. Aghamohammadi, & M. Khorrami:
Autonomous multispecies reaction-diffusion systems with more-than-two-site interactions:
Physical Review E **64** (2001) 0066102
- (29) M. Khorrami, & A. Aghamohammadi;
Dynamical phase transition of a one-dimensional kinetic Ising model with boundaries;
Physical Review E **65** (2002) 056129
- (30) F. Tabatabaee , & A. Aghamohammadi;
Cluster approximation solution of a two species annihilation model;
Physical Review E **66** (2002) 066136
- (31) M.Khorrami, A. Aghamohammadi & M. Alimohammadi;
Exactly solvable through empty interval method, for more-than-two-site interactions;
Journal of Physics A **36** (2003) 345-357
- (32) A. Aghamohammadi, M. Alimohammadi & M. Khorrami;
Exactly solvable through the generalized empty interval method, for multispecies interactions;
The European Physical Journal B **31** (2003) 371- 378

- (33) N. Abed-Pour, A. Aghamohammadi, M. Khorrami, & M. Reza Rahimi Tabar;
Discrete scale invariance, and its logarithmic extension;
Nuclear Physics **B655** (2003) 342-352
- (34) M.Khorrami, & A. Aghamohammadi;
Static- and Dynamical-Phase Transition in One-Dimensional Reaction-Diffusion systems with Boundaries;
Brazilian Journal of Physics **33** (September 2003) 421-430
- (35) A. Aghamohammadi, & M.Khorrami;
Dynamical phase transition in the two-point functions of the autonomous one-dimensional single-species reaction-diffusion systems;
The European Physical Journal **B37** (2004) 193-198
- (36) M.Khorrami, & A. Aghamohammadi;
Perturbative calculation of one-point functions of one-dimensional single-species reaction-diffusion systems;
Physical Review **E70** (2004) 011103
- (37) A. Aghamohammadi, & M.Khorrami;
Exactly solvable models through the generalized empty interval method; multi-species and more-than-two- site interactions;
International Journal of Modern Physics **B18** (2004) 2047-2055
- (38) F. Roshani, A. Aghamohammadi, & M.Khorrami;
Static- and dynamical phase transitions in multidimensional voting models on continua;
Physical Review **E70** (2004) 056128
- (39) A. Aghamohammadi, & M.Khorrami;
Models solvable through the empty-interval method;
The European Physical Journal **B47** (2005) 583-586
- (40) M. Arabsalmani, & A. Aghamohammadi;
Phase transitions in systems possessing shock solutions;
Physical Review **E74** (2006) 011107
- (41) M. Arabsalmani, & A. Aghamohammadi;
Multi-shock in reaction diffusion models;
The European Physical Journal **B55** (2007) 439-446
- (42) M.Khorrami, & A. Aghamohammadi;
Phase transition in annihilation-limited processes;
The European Physical Journal **B56** (2007) 223-227
- (43) L. F. Matin, A. Aghamohammadi, & M. Khorrami;
Exactly solvable reaction diffusion models on a Cayley tree;
The European Physical Journal **B56** (2007) 243-246
- (44) A. Aghamohammadi, & M.Khorrami;
The Fokker-Planck Equation, and Stationary Densities;
International Journal of Theoretical Physics, **47** (2008) 1630-1638
- (45) A. Aghamohammadi, & M.Khorrami;
Nonuniform autonomous one-dimensional exclusion nearest-neighbor reaction-diffusion models;
European Physical Journal **B74** (2010) 159
- (46) M. Khorrami, & A. Aghamohammadi;
Dynamical phase transition in one-dimensional kinetic Ising model with nonuniform coupling constants;
Journal of Statistical Mechanics (2010) P10019
- (47) S. M. Hashemi, & A. Aghamohammadi;
Multi-species reaction-diffusion models admitting shock solutions;
Journal of Statistical Mechanics (2010) P12035
- (48) Amir H. Fatollahi, Mohammad Khorrami, Ahmad Shariati, & Amir Aghamohammadi;
Classification of matrix-product ground states corresponding to one-dimensional chains of two-state sites of nearest neighbor interactions;
Physical Review A **83**, (2011) 042108

- (49) A. Aghamohammadi, & M.Khorrami;
Nonuniform autonomous one-dimensional exclusion nearest-neighbor reaction-diffusion models **II**;
Journal of Physics **A44** (2011) 345002
- (50) A. Aghamohammadi;
Dimensional analysis and electric potential due to a uniformly charged sheet;
European Journal of Physics **32** (2011) 633-643
- (51) Cina Aghamohammadi, & Amir Aghamohammadi;
Slipping and rolling on an inclined plane;
European Journal of Physics **32** (2011) 1049-1057
- (52) Amir Aghamohammadi;
The point of departure of a particle sliding on a curved surface;
European Journal of Physics **33** (2012) 1111-1117
- (53) M. Khorrami, A. shariati, A. Aghamohammadi, & A. H. Fatollahi;
Lack of anomalous diffusion in linear translationally-invariant systems setermined by only one initial condition;
Physics Letters **A376**, (2012) 687-691
- (54) A. Aghamohammadi, C. Aghamohammadi & M. Khorrami;
Externally driven one-dimensional Ising model;
Journal of Statistical Mechanics (2012) P02004
- (55) M. Khorrami, & A. Aghamohammadi;
One-dimensional Kinetic Ising Model with Nonuniform Coupling Constant;
International Journal of Theoretical Physics **51** (2012) 1529-1537
- (56) M. Khorrami, & A. Aghamohammadi;
Autonomous models solvable through the full interval method One-dimensional Kinetic Ising Model with Nonuniform;
European Physical Journal **B85** (2012) 134
- (57) A. Aghamohammadi, & M. Khorrami;
The spectrum and the phase transition of models solvable through the full interval method;
Journal of Statistical Mechanics (2012) P07023
- (58) A Aghamohammadi, AH Fatollahi, M Khorrami, & A Shariati;
Entropy as a measure of diffusion;
Physics Letters **A377** (2013), 16771681
- (59) M Khorrami, & A Aghamohammadi; Phase transitions in a reaction-diffusion model on a line with boundaries;
Journal of Mathematical Physics **55** (2014), 033301
- (60) M Khorrami, & A Aghamohammadi;
Autonomous models on a Cayley tree;
Journal of Statistical Mechanics (2014) P07017
- (61) Ahmad Shariati, Amir Aghamohammadi, Amir H. Fatollahi, & Mohammad Khorrami;
Some correlation functions in matrix product ground states of one dimensional two-state chains;
Reports on Mathematical Physics **73** (2) (2014), 201-211
- (62) M Khorrami, & A Aghamohammadi;
A suspended rope wrapped around a cylinder;
European Journal of Physics **35** (2014), 025008
- (63) Z Mohammadi, A Aghamohammadi, & M Khorrami
The most general autonomous two-lane diffusion;
Journal of Statistical Mechanics: Theory and Experiment (9), (2014) P09028
- (64) A Aghamohammadi, & M Khorrami
Lattice Models Solvable Through the Full Interval Method on Links;
Journal of Statistical Physics, **157** (2014) 1320-1330

B)
PUBLICATIONS
IN NATIONAL
REFEREED
JOURNALS;

- (1) A. Aghamohammadi;
Dimensional analysis and moment of inertia,
Journal of Physics (1992) 176-178.
- (2) S. Khalighi Monfared, S. Nesaei;
Geometry of equipotential surfaces for point charges,
Gamma, winter (2004) 38-46.
- (3) A. Aghamohammadi;
Dimensional analysis,
Gamma, spring (2004) 50-58.
- (4) M. Arabsalmani, A. Aghamohammadi;
Maximal packing,
Gamma, summer (2004) 38-43.
- (5) A. Aghamohammadi;
Perturbation,
Gamma, Autumn (2004) 39-53.
- (6) A. Aghamohammadi;
Relative distance of quantum particles,
Gamma, winter (2005) 40-42.
- (7) A. Aghamohammadi;
An Introduction to difference equations,
Gamma, spring (2005) 52-68.
- (8) A. Aghamohammadi;
Solution of problem 3,
Gamma, summer (2005) 57-60.
- (9) A. Aghamohammadi, Roshan Tourani;
Electric potential of a charged line of finite length,
Gamma, summer (2006) 45-53.
- (10) A. Aghamohammadi;
Chase problem,
Gamma, spring (2007) 59-70.
- (11) A. Aghamohammadi;
The motion of a particle in a hemisphere,
Gamma, summer (2007) 23-27.
- (12) A. Aghamohammadi;
Angular velocity of a rotating body in the space coordinate,
Gamma, summer (2008) 41-49.
- (13) A. Aghamohammadi;
Magnetic monopole,
Gamma, autumn (2008) 54-63.
- (14) A. Aghamohammadi;
A problem in elementary mechanics, a slipping ladder,
Gamma, summer (2009) 49-58.
- (15) A. Aghamohammadi;
The point of departure of a particle sliding on a curved surface;
Gamma, winter (2009) 60-64.

C) BOOKS

- ✍ *Mechanics*; A. Aghamohammadi; Fatemi publishing (2010)
- ✍ *Fluids, Thermodynamics, and optics*; A. Aghamohammadi, AR Hoseini, M. Bahmanabadi;
Fatemi publishing (2011)
- ✍ *Fluid Mechanics*; A. Aghamohammadi; Alzahra university Publishing (2013)

D) CONTRIBUTIONS TO CONFERENCE PROCEEDINGS

- (1) A. Shariati, A. Aghamohammadi, & M. Khorrami; A triangular deformation of the two dimensional Poincare algebra; 7th. Regional Conference on Mathematical Physics, Anzali, Iran (1995)
- (2) M. Khorrami, A. Shariati, & A. Aghamohammadi; Contraction and the relation between different deformations of $GL(2)$; 7th. Regional Conference on Mathematical Physics, Anzali, Iran (1995)
- (3) A. Aghamohammadi; Inhomogeneous quantum groups; Physics Conference, Iran (1994) 33.
- (4) A. Shariati, M. Khorrami, M. R. Abolhasani, & A. Aghamohammadi; Triangular deformation of Poincar algebra; Physics Conference, Iran (1995) 180-181.
- (5) A. Aghamohammadi, M. Khorrami, & A. Shariati; Jordanian deformation of $SL(2)$ as a contraction of the Drinfeld-Jimbo deformation of $SL(2)$; Physics Conference, Iran (1995) 1-6.
- (6) A. Aghamohammadi, A. Shariati, S. Rouhani; Inhomogeneous quantum transformations on two-dimensional quantum spaces; IPM Spring, Iran (1996) 7-15.
- (7) M. Khorrami, A. Shariati, & A. Aghamohammadi; $SL_h(2)$ -symmetric torsionless connections; IPM Spring, Iran (1996) 271-272.
- (8) M. Khorrami, A. Aghamohammadi, & A. Shariati; Toda theories as contractions of affine Toda theories; IPM Spring, Iran (1996) 273-274.
- (9) A. Aghamohammadi; Recent advances of Mathematical physics I; (*invited speaker*), Physics Conference, Iran (1998) 3-4.
- (10) A. Aghamohammadi, M. Khorrami, & A. Shariati; Similarity transformation in one-dimensional reaction-diffusion systems; Physics Conference, Iran (1999) 112-113.

COURSES TAUGHT

- ✍ mathematical physics
- ✍ classical mechanics
- ✍ quantum mechanics
- ✍ electrodynamics
- ✍ statistical mechanics
- ✍ general physics
- ✍ waves
- ✍ special relativity
- ✍ fluid mechanics
- ✍ thermodynamics
- ✍ quantum chemistry