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Citations (Scopus):
146

Supervised PhD Theses

#	Thesis title	By	Date
1	Relativistic quantum information theory	Fatemeh Ahmadi & Mohammad Mehrafarin	February 2014
2	Heat conductivity & the normal- superfluid interface in ultracold polarized Fermi gases	Neda Ebrahimian & Mohammad Mehrafarin	February 2012
3	Interaction of optical beam & medium with curved parametric spaces	Leila Mashhadi & Mohammad Mehrafarin	May 2010
4	Effect of Geometric Phase on Spin Transport	Reza Torabi & Mohammad Mehrafarin	June 2009
5	THE CHOICE OF VACUUM IN QUANTUM FIELD THEORY ON CURVED SPACE -TIME	Farrin Payandeh & Mohammad Mehrafarin	September 2008

Supervised MSc Theses

#	Thesis title	By	Date
1	superfluid vortex dynamics in the gauge-field model of superfluid turbulence	Navid Farzinjoo & Mohammad Mehrafarin	July 2020
2	Loop gas model of superfluid turbulence	Hamid Reza Kiani Hares Abadi & Mohammad Mehrafarin	February 2018

3	Electronic transport in graphene with topological defect	Mehdi Taheri & Mohammad Mehrafarin	February 2018
4	Spin Transport in Monolayer Graphene	Mohammad Mehdi Bazmi & Mohammad Mehrafarin	February 2016
5	statistical mechanic of gravitational systems	Maryam Pahlevanzadeh & Mohammad Mehrafarin	January 2016
6	paraxial propagation in dislocated optical crystals	Hadise Hajimohammadi & Mohammad Mehrafarin	October 2011
7	superstatistics and fluctuating non-equilibrium systems	Ansoureh Hoseini & Mohammad Mehrafarin	October 2011
8	Paraxial spin transport in dislocated media using the Dirac-like paraxial wave equation	Shabnam Zeynali Avindin & Mohammad Mehrafarin	September 2011
9	Polarization Transport of Paraxial Beam in Optical Media	Shima Gholammirzaeimoghadar & Mohammad Mehrafarin	February 2011
10	Frequency band structure of phononic crystals	Saadat Shojainejad & Mohammad Mehrafarin	February 2010
11	INTERMITTENCY IN ROUGH PIPE TURBULENCE	Nima Pourtolami & Mohammad Mehrafarin	January 2008
12	Quantum Mechanics in the Preparation Space	Hoda Hesari & Mohammad Mehrafarin	February 2006
13	Nonlinear quantum mechanics based on quantum entropy	Magid Mohammadi & Mohammad Mehrafarin	May 2002

Journal Papers

Portal Records

- Mansoureh Hoseini, Mohammad Mehrafarin, "Spin Hall effect of light in inhomogeneous axion field", PHYSICS LETTERS B, November 2020 Vol. 811, Num. 12, Page 1-1, November 2020,
- Mansoureh Hoseini, Mohammad Mehrafarin, "Cosmological birefringence and the geometric phase of photons", PHYSICS LETTERS B, August 2019 Vol. 797, Num. 10, Page 134841-0, August 2019,
- Hamideh Balajany Taleghany, Mohammad Mehrafarin, "Geometric Phase of Linear Cosmological Perturbations in Two-Field Inflation", GRAVITATION & COSMOLOGY, June 2019 Vol. 25, Num. 2, Page 184-189, June 2019,
- Hamideh Balajany Taleghany, Mohammad Mehrafarin, "Geometric phase of cosmological scalar and tensor perturbations in $f(R)$ gravity", MODERN PHYSICS LETTERS A, May 2018 Vol. 33, Num. 14, Page 185007--8, May 2018,
- Hamideh Balajany Taleghany, Mohammad Mehrafarin, "Berry phase of primordial scalar and tensor perturbations in single-field inflationary models", PHYSICS LETTERS A, April 2018 Vol. 382, Num. 23, Page 1524-1527, April 2018,
- Mohammad Mehrafarin, "Gauge-field model of superfluid turbulence in the zero-temperature limit", JOURNAL OF STATISTICAL MECHANICS-THEORY AND EXPERIMENT, February 2018 Vol. 0, Num. 2, Page 23109-0, February 2018,
- Fatemeh Ahmadi, Mohammad Mehrafarin, "Entangled spin states in geodesic motion around massive body", QUANTUM INFORMATION PROCESSING, February 2014 Vol. 13, Num. 3, Page 639-647, February 2014,
- Neda Ebrahimian, Mohammad Mehrafarin, "Meissner-like Effect on Normal-superfluid Interface of Imbalanced Fermi Gas", JOURNAL OF THE KOREAN PHYSICAL SOCIETY, June 2013 Vol. 62, Num. 12, Page 2218-2222, June 2013,

- 9 Fatemeh Ahmadi, Mohammad Mehrafarin, "Entanglement of three-qubit spin states moving in the gravitational field of a massive body", JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL, November 2012 Vol. 45, Num. 48, Page 1-8, November 2012,
- 10 Neda Ebrahimiyan, Mohammad Mehrafarin, Reza Afzali, "Dependence of interface conductivity on relevant physical parameters in polarized Fermi mixtures", PHYSICA C-SUPERCONDUCTIVITY AND ITS APPLICATIONS, August 2012 Vol. 480, Num. 9, Page 49-54, August 2012,
- 11 Reza Torabi, Mohammad Mehrafarin, "Berry effect in unmagnetized inhomogeneous cold plasmas", JETP LETTERS, May 2012 Vol. 95, Num. 6, Page 277-281, May 2012,
- 12 Neda Ebrahimiyan, Mohammad Mehrafarin, R. Afzali, "Linear response of heat conductivity of normal-superfluid interface of a polarized Fermi gas to orbital magnetic field", PHYSICA B-CONDENSED MATTER, January 2012 Vol. 407, Num. 1, Page 140-144, January 2012,
- 13 Mohammad Mehrafarin, "Superstatistics as the statistics of quasiequilibrium states: Application to fully developed turbulence", PHYSICAL REVIEW E, August 2011 Vol. 84, Num. 2, Page 22102--4, August 2011,
- 14 Mohammad Mehrafarin, Shima Gholammirzaeimoghadar, "Paraxial propagation in disclinated amorphous media", PHYSICA B-CONDENSED MATTER, July 2011 Vol. 406, Num. 19, Page 3671-3673, July 2011,
- 15 Leila Mashhadi, Mohammad Mehrafarin, "Paraxial propagation in amorphous optical media with screw dislocation", Journal of Optics, February 2010 Vol. 12, Num. 3, Page 0-0, February 2010,
- 16 Mohammad Mehrafarin, [en-name N/A], "Paraxial spin transport using the Dirac-like paraxial wave equation", Physics Letters A, February 2010 Vol. 374, Num. 0, Page 0-0, February 2010,
- 17 Mohammad Mehrafarin, Reza Torabi, "Geometric aspects of phonon polarization transport", , June 2009 Vol. 373, Num. 0, Page 0-0, June 2009,
- 18 Farrin Payandeh, Mohammad Mehrafarin, [en-name N/A], "One-loop approximation of Moller scattering in generalized Krein-space quantization", , February 2009 Vol. 52, Num. 2, Page 0-0, February 2009,
- 19 Farrin Payandeh, Mohammad Mehrafarin, [en-name N/A], "Free fields quantization in the Krein space", Ukrainian Journal of Physics, December 2008 Vol. 53, Num. 12, Page 0-0, December 2008,
- 20 Reza Torabi, Mohammad Mehrafarin, "Berry effect in acoustical polarization transport in phononic crystals", JETP Letters, December 2008 Vol. 88, Num. 9, Page 0-0, December 2008,
- 21 Mohammad Mehrafarin, Nima Pourtolami, "Intermittency and rough-pipe turbulence", , May 2008 Vol. 77, Num. 5, Page 0-0, May 2008,
- 22 Mohammad Mehrafarin, "A geometric approach to the canonical reformulation of quantum mechanics", Theoretical and Mathematical Physics, June 2006 Vol. 147, Num. 3, Page 0-0, June 2006,
- 23 Mohammad Mehrafarin, "Quantum mechanics from two physical postulates", International Journal of Theoretical Physics, April 2005 Vol. 44, Num. 4, Page 0-0, April 2005,
- 24 Mohammad Mehrafarin, "The informational nature of quantum mechanics: a novel look at the interference experiment", , April 2003 Vol. 16, Num. 2, Page 0-0, April 2003,
- 25 Mohammad Mehrafarin, [en-name N/A], "Random-walk diffusion and drying of porous materials", , December 2001 Vol. 301, Num. 0, Page 0-0, December 2001,
- 26 [en-name N/A], Mohammad Mehrafarin, "Comments on the unification of electromagnetism and gravitation through generalized Einstein manifolds", , May 1998 Vol. 25, Num. 0, Page 0-0, May 1998,
- 27 Mohammad Mehrafarin, [en-name N/A], "On accelerated clocks and the quantum theory", , October 1997 Vol. 112, Num. 10, Page 0-0, October 1997,
- 28 Mohammad Mehrafarin, [en-name N/A], "Non-integrable mappings and fluctuating irreversible processes", , November 1995 Vol. 28, Num. 0, Page 0-0, November 1995,
- 29 Mohammad Mehrafarin, "Fluctuations and the quantisation of the entropy production rate", , March 1994 Vol. 27, Num. 0, Page 0-0, March 1994,






- 30 Mohammad Mehrfarin, "Canonical operator formulation of nonequilibrium thermodynamics", , October 1993 Vol. 26, Num. 0, Page 0-0, October 1993,
- 31 Mohammad Mehrfarin, "S=-1/2 Ising model", , June 1993 Vol. 6, Num. 0, Page 0-0, June 1993,
- 32 Mohammad Mehrfarin, R.G. Bowers, "Ising model with real spin", , September 1989 Vol. 22, Num. 0, Page 0-0, September 1989,

Conference Papers

Portal Records

- 1 Farrin Payandeh, Mohammad Mehrfarin, "Field quantization in Krein space ", , July 2007
- 2 Farrin Payandeh, Mohammad Mehrfarin, "The anisotropies of CMB in Krein space quantization ", , June 2007

Taught Courses

#	Course title	Description	Headlines	Date
1	General Relativity (I)	Introduction to general relativity		Fall 2021
2	Quantum Mechanics (I)	Introduction to quantum mechanics		Fall 2021
3	ADVANCED STATISTICAL MECHANICS (II)	Special topics in advanced statistical mechanics		Spring 2021
4	Thermodynamics & Statistical Physics (II)	Introduction to the statistical mechanics of particle systems		Spring 2021
5	Thermodynamics & Statistical Physics (I)	Introduction to Thermodynamics		Fall 2020