

# Grigor Bakhshi Alaverdyan

## Institute of Physics

Chair of Theoretical and Mathematical Physics

Associate professor

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## Education

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<b>Institution</b>	Yerevan State University, Joint Institute for Nuclear Research in Dubna
<b>Faculty</b>	Chair of Theoretical Physics
<b>Date</b>	1974 - 1977
<b>Degree name</b>	PhD student

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Physics
<b>Date</b>	1966 - 1971
<b>Degree name</b>	Qualified specialist

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## Scientific Rank/degree

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<b>Institution</b>	Yerevan State University
<b>Date</b>	1982
<b>Degree name</b>	Associate professor
<b>Specialty</b>	Physico-mathematical sciences

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<b>Institution</b>	Yerevan State University
<b>Date</b>	1980
<b>Degree name</b>	Candidate
<b>Specialty</b>	Physico-mathematical sciences
<b>Scientific Supervisor</b>	Tarasov Alexander Vasilevich
<b>Research Topic</b>	Multiple collision effects of leading particles in the hadron-nucleus interactions

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## Language skills

Հայերեն Русский English

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## Work experience

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<b>Institution</b>	Yerevan State University, Chair of applied Electrodynamics and Modeling
<b>Period of time</b>	2018 till now
<b>Rank/degree</b>	Associate Professor

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**Institution** Yerevan State University, Chair of Wave Processes theory and Physics  
**Period of time** 2012 - 2018  
**Rank/degree** Head of Chair

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**Institution** Yerevan State University, Chair of Wave Processes theory and Physics  
**Period of time** 1982 - 2012  
**Rank/degree** Associate Professor

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**Institution** Yerevan State University, Department of implementation of scientific and technical works  
**Period of time** 1980 - 1982  
**Rank/degree** Group Leader

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**Institution** Yerevan State University, Department of Scientific Research  
**Period of time** 1977 - 1980  
**Rank/degree** Senior Engineer

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**Institution** Yerevan State University, Chair of Theoretical Physics  
**Period of time** 1974 - 1976  
**Rank/degree** PHD Student

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**Institution** Yerevan State University, Chair of Theoretical Physics  
**Period of time** 1971 - 1973  
**Rank/degree** Assistant Professor

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## Scientific interests

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- Nuclear physics
  - Physics of elementary particles
  - Theoretical astrophysics
  - Physics of compact stars with quark structure
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## Publications

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*Article*

**Numerical Modeling of Thermodynamic Parameters for Hot Neutron Star Matter in Neutrino-Trapped Regime**

G.B. Alaverdyan, G.S. Hajyan, A.G. Alaverdyan

Physics of Particles and Nuclei 2025 1318-1322

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*Article*

**Changes in the Parameters of a Compact Star Due to the Quark Deconfinement Phase Transition: Comparative Analysis of Maxwell and Gibbs Scenarios.**

G.B. Alaverdyan

Article

**Isospin-Asymmetric Cold Nuclear Matter in the Relativistic Mean-Field Theory with a Scalar-Isovector Interaction Channel**

Alaverdyan G.B, Alaverdyan A.G.

Astrophysics 2024 215-230

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Article

**EFFECT OF NEUTRINO OSCILLATIONS ON THE THERMODYNAMIC PROPERTIES OF HOT QUARK MATTER**

G. B. Alaverdyan, G. S. Hajyan, A.G. Alaverdyan

Astrophysics 2023 127-139

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Article

**Properties of Hot Quark Matter with Neutrino Confinement in the NJL Model**

G.B. Alaverdyan, G.S. Hajyan

Astrophysics 2022 126-136

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Article

**QUARK MATTER IN THE NJL MODEL WITH A VECTOR INTERACTION AND THE STRUCTURE OF HYBRID STARS**

G.B. Alaverdyan

Astrophysics 2022 378-395

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Manual

**Մեխանիկա 1. Կինեմատիկա**

Գրիգոր Ալավերդյան

2022 104

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Article

**Hadron-Quark Phase Transition in the SU (3) Local Nambu-Jona-Lasinio (NJL) Model with Vector Interaction**

Grigor Alaverdyan

Symmetry 2021 124(1-16)

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Article

**Hot Quark Matter with Neutrino Confinement in Terms of the Local Nambu - Jona-Lasinio SU(3) Model**

G.B.Alaverdyan, G.S.Hajyan

Astrophysics 2021 370-387

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Article

**Гибридные звезды в рамках локальной модели Намбу-Иона-Лазинио для кварковой материи**

Г.Б.Алавердян, Ю.Л.Вартанян

Астрофизика (Astrophysics) 2018 557-572

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Article

**Максимальная масса гибридных звезд в модели кваркового мешка**

Алавердян Г.Б., Вартанян Ю.Л.

Астрофизика (Astrophysics) 2017 617-626

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*Article*

**Աղբյուրի գերձայնային շարժման ժամանակ ձայնային ազդանշանի ժամանակային շրջման երևույթի մասին**

Գ.Բ. Ալավերդյան

Բնագետ 2015 17-24

<http://www.ysu.am/bnaget>

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*Conference*

**Strange quark matter in compact stars**

Yu.L.Vartanyan, G.S.Hajyan, G.B.Alaverdyan, A.K.Grigoryan, A.R.Harutyunyan, A.G.Alaverdyan,

H.A.Shahinyan

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*Conference*

**Scalar-isovector channel of the nucleon-nucleon interaction in the RMF theory and massive compact stars**

ALAVERDYAN, Grigor

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*Conference*

**Compact stars with quark core**

ALAVERDYAN Grigor, VARTANYAN Yury, HARUTYUNYAN Anahit

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*Conference*

**Impact of the MIT bag model parameters values on the maximum mass of neutron star with a quark core**

Grigor Alaverdyan, Yuri Vartanyan

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*Conference*

**Hybrid Star Properties within the Nambu - Jona-Lasinio (NJL) Model for Quark Matter and Relativistic Mean Field (RMF) Model for Hadronic Matter**

Grigor Alaverdyan

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*Conference*

**Structure of hybrid stars within the local NJL model for quark matter and RMF model for hadronic matter**

G.B. Alaverdyan, Yu.L. Vartanyan

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*Conference*

**Hot Quark Matter at Neutrino Confinement in the Framework of the local SU(3) Nambu - Jona-Lasinio Model**

Grigor Alaverdyan, Gevorg Hajyan

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*Conference*

**Quark Matter in The NJL Model with Vector Interaction and The Structure of Compact Stars**

G.B. Alaverdyan

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*Conference*

**Hot  $\beta$ -equilibrium hadronic matter in the neutrino-trapped regime within the framework of relativistic mean-field theory**

Grigor Alaverdyan

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*Conference*

**Neutrino oscillations effects on the thermodynamic properties of hot electrically neutral quark matter in beta-equilibrium**

Grigor Alaverdyan, Gevorg Hajyan

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*Conference*

**Thermodynamic Properties of Hot  $Q$  Equilibrium Hadronic and Quark Matter in the Neutrino-Trapped Regime**

Grigor Alaverdyan

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*Conference*

**Numerical Modeling of Thermodynamic Parameters for Hot Neutron Star Matter in Neutrino-Trapped Regime**

Grigor Alaverdyan, Gevorg Hajyan, Ani Alaverdyan

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