George Machabeli

Personal information

Full name: George Machabeli

Gender: Male

Citizenship: საქართველო

(Georgia)

Contact Details

Email address:

g.machabeli@iliauni.edu.ge

Country: საქართველო (Georgia)

City: Tbilisi

Languages

Language	Writing	Reading	Speaking
ქართული (Georgian)	C2	C2	C2
English	B2	B2	B2
Russian	C2	C2	C2

Education

Academic degree

Academic Degree: Doctoral/PhD, Ed.D or other equivalent

Year obtained: 23.12.1983

Honorary Title: Emeritus

Degree awarding body:

Education

Academic Degree	Name of the Institution	Country	Major discipline	Start year	End year
Doctoral/PhD, Ed.D or other equivalent	Ivane Javakhishvili Tbilisi State University	საქართველო (Georgia)	Physics	1970	1983

Projects

Ongoing projects

Project title	Position	Project head	Start Date	Donor
A Novel Mechanism of Pair Creation in Pulsar Magnetospheres and consequent generation of pulsed emission.	key personnel (Researcher - Project Manager)	Nino Chkheidze	14.12.2023	Shota Rustaveli National Science Foundation of Georgia

Completed projects

Project title	Position	Project head	Start Date	End Date	Donor

Project title	Position	Project head	Start Date	End Date	Donor
The different observational manifestations of radio pulsars and their single emission nature.	Principle Investigator	George Machabeli	25.02.2019	25.02.2022	Shota Rustaveli National Science Foundation of Georgia
Cosmic rays powered by Astrophysical compact objects	key personnel (Researcher-Project Manager)	Nino Chkheidze	20.12.2017	20.12.2020	Shota Rustaveli National Foudation of Georgia
Nonlinear optical phenomena in Astrophysical sources	Scientific leader of the project	George Machabeli	05.05.2015	05.05.2018	Shota Rustaveli National Science Foundation of Georgia
Cosmic Ultra-High-Energies and their Realization Mechanisms	key personnel (Researcher-Project Manager)	Nino Chkheidze	15.04.2013	15.04.2016	Shota Rustaveli National Science Foundation of Georgia
Interactive dynamics of Sun and sun-like stars and collective phenomena	Coordinator, research scientist	Andria Rogava	01.10.2008	01.10.2010	Georgian National Science Foundation
Electrodynamics of Relativistic Plasma Flows Emanating from Rotating Compact Astrophysical Objects Pulsars to Active Galactic Nuclei	Scientific leader of the project	George Machabeli	03.09.2007	03.09.2009	Georgian National Science Foundation
The wave propagation peculiarities in earth atmosphere	Scientific leader of Georgian research group	George Machabeli	05.01.1998	05.01.2001	ECO-NET

Scientific Fields (2018-2020)

Main Field

Field: 1. Natural sciences

Sub-Field: 1.3 Physical sciences

Subject area: 1.3.8 Astronomy (including astrophysics, space science)

Scientific Fields (2021-2024)

Main Field

Field: 1. Physical Sciences and Engineering

Sub-Field: 1.9 Universe Sciences

Subject area: 1.9.10 Relativistic astrophysics and compact objects

Employment History

Current place(s) of employment

Workplace	Name of the work department	Position	Main responsibilities	Start Date

Workplace	Name of the work department	Position	Main responsibilities	Start Date
Ilia State University	School of Natural Science and Engineering. Institute of Theoretical Physics/Center for Theoretical Astrophysics	Professor Emeritus	Research, Teaching	01.09.2009

Work experience

Company/Institution	Name of the department	Position	Main responsibilities	Start Date	End Date
Ilia State University	School of Natural Sciences and Engineering. Institute of Theoretical Physics/ Center for Theoretical Astrophysics	Full Professor/ Head of Institute of Theoretical Physics	Reserach, teaching	01.09.2008	31.08.2009
Ivane Javakhishvili Tbilisi State University	Faculty of Exact and Natural Sciences	Full Professor	Teaching, research	01.09.2006	31.08.2008
E. Kharadze Abastumani National Astrophysical Observatory	Department of Theoretical Astrophysics	Senior Research Scientist	Research	01.09.1976	31.08.2006

Scientific Productivity

Article / Monograph / Manual

Type	Authors	Publication title	Source title	Year
Article	Chkheidze, N.; Machabeli, G.; Kevlishvili, N.	The curvature emission model of peculiar isolated neutron star 2XMM J104608.7-594306	New Astronomy	2021
Article	Osmanov, Zaza ; Machabeli, George ; Chkheidze, Nino	A Novel Mechanism of Pair Creation in Pulsar Magnetospheres	Universe	2021
Article	Machabeli, G.; Malov, I.; Gogoberidze, G.; Kevlishvili, N.	Generation of Nano-Outbursts in Pulsar Emission in the Crab Nebula	Astrophysics	2021
Article	Gogoberidze, G.; Machabeli, G.; Voitenko, Yu.	Temperature spectrum of the solar wind turbulence	ComBAO	2020
Article	Machabeli, G.; Chkheidze, N.; Malov, I.	Energy accumulation mechanism in pulsar magnetospheric plasma eigen-waves and formation of Giant Radio Pulses	Ap&SS	2019
Article	Machabeli, G.; Rogava, A.; Chkheidze, N.; Kevlishvili, N.	The high energy emission of the Crab's twin pulsar PSR J0540-6919 in the Large Magellanic Cloud	Ap&SS	2019
Article	Machabeli, George; Rogava, Andria; Tevdorashvili, Beka	Self-trapping as the possible beaming mechanism for FRBs	MNRAS	2019
Article	Osmanov, Zaza; Mahajan, Swadesh; Machabeli, George; Chkheidze, Nino	Efficiency of centrifugal mechanism in producing PeV neutrinos from active galactic nuclei	APh	2018
Article	Gogoberidze, G.; Voitenko, Y. M.; Machabeli, G.	Temperature spectra in the solar wind turbulence	MNRAS	2018
Article	Osmanov, Z.; Mahajan, S.; Machabeli, G.	On the Rotationally Driven Pevatron in the Center of the Milky Way	ApJ	2017
Article	Machabeli, G.; Gogoberidze, G.; Shapakidze, D.; Midelashvili, E.	Transfer of PSR0531 rotation energy to the radiation of the Crab nebula	Ap&SS	2017
Article	Machabeli, G.; Malofeev, V. M.; Gogoberidze, G.	The origin of radio bursts of pulsar J0643+80	MNRAS	2017
Article	Machabeli, George Z.; Rogava, A.; Chkheidze, N.; Osmanov, Z.; Shapakidze, D.	The Crab nebula energy origin and its high frequency radiation spectra	JPlPh	2016
Article	Osmanov, Zaza; Mahajan, Swadesh; Machabeli, George; Chkheidze, Nino	Millisecond newly born pulsars as efficient accelerators of electrons	Nature Scientific Reports	2015
Article	Machabeli, George; Rogava, Andria; Shapakidze, David	On the Origin and Physics of Gamma Flares in Crab Nebula	ApJ	2015
Article	Machabeli, G.; Chkheidze, N.	A possible mechanism for forming the radio emission spectrum of the Crab pulsar	MNRAS	2014
Article	Machabeli, G.; Chkheidze, N.	On high frequency Cherenkov-type radiation in pulsar magnetospheric electron-positron plasma	Ap&SS	2014
Article	Osmanov, Z.; Mahajan, S.; Machabeli, G.; Chkheidze, N.	Extremely efficient Zevatron in rotating AGN magnetospheres	MNRAS	2014

Type	Authors	Publication title	Source title	Year
Article	Mahajan, Swadesh; Machabeli, George; Osmanov, Zaza; Chkheidze, Nino	Ultra High Energy Electrons Powered by Pulsar Rotation	Nature Scientific Reports	2013
Article	Chkheidze, N.; Machabeli, G.; Osmanov, Z.	ON THE VERY HIGH ENERGY PULSED EMISSION IN THE CRAB PULSAR	ApJ	2011
Article	Machabeli, G.; Osmanov, Z.	On the Very High Energy Pulsed Emission in the Crab Pulsar	ApJ	2010

Productivity index

#	Citation index	h-index
Google scholar	1970.00	24.00
Scopus	931.30	16.00