

## CURRICULUM VITAE

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First Name / Name: Adrian Sabin Popescu

Address: Aleea Parva 9, Bl.D18, Sc.F, Ap.58, RO-061943  
Bucharest, Romania

Date / place of birth: 23.08.1975 / Bucharest

Civil status: Single

Driving licence: B and A categories

### Scientific links:

ResearchGate:

<https://www.researchgate.net/profile/Adrian-Popescu-2>

ORCID ID: 0000-0002-8819-9477

Scopus Author ID: 57196978727

### Studies:

PhD student – started in 2006 but unfinished until present because the coordinator, Dr. Vasile Mioc, deceased before the PhD defense; Thesis title: “Topological Model for the heliosphere’s electromagnetic field” (Model Topologic de Camp electromagnetic heliosferic); Field: Mathematics; Exams passed: Astronomy and Astrophysics, Numerical Methods, Magnetohydrodynamics, Nonlinear Dynamics

Master degree: first year at University of Bucharest, Faculty of Physics; second year at Rheinische Friedrich-Wilhelms-Universität Bonn with an Erasmus stipendium (1999-2001); Coordinator: Prof. Dr. Peter L. Biermann

University of Bucharest, Faculty of Physics, “Physics of the atom and molecule” Section (1994-1999). Graduation thesis: “Fenomene Electrice in Atmosfera Inalta” (“Electrical Phenomena in High Atmosphere”), a study trying to find the altitudes and the mechanism by which “sprites” and “jets” are produced. Coordinator: Prof. Dr. Mircea V. Rusu

Degree at graduation examination: 9.41

Degree at graduation thesis: 10

Degree at dissertation thesis: 10

Theoretical High School “Eugen Lovinescu” (1990-1994)

### Professional formation / Employments:

Astronomical Institute of the Romanian Academy – researcher,  
since 15.11.2001

Solar group: 15.11.2001 - 2011

Cosmology group: 04.2004 - 2017

Stellar astrophysics and planetary systems group – since 2011

Max-Planck Institut für Radioastronomie (theory group), Bonn, Germany,  
fellowship, 04.10.2000 – 30.09.2001

Member of “The Romanian Physical Society” (RPS), 2009-2014

Member of the “Amateur Association for Astronomy”, Bucharest, Romania,  
1999-2016

IPA SA (Research Institute for Automation), Bucharest, Romania –  
collaborator MCT themes, 1999-01.01.2000

AUTSYS SRL (private engineering company), Bucharest, Romania –  
scientific advisor, 1998-01.08.2000

### International projects:

Participant at “Romanian contributions to the Sun-Heliosphere Studies  
(SOHO-Ulysses)”; Period: 2007-2009;

Project director: Dr. Cristiana Dumitrache; Financing agency and programme:  
ESA-PECS

### Awards and distinctions:

On the occasion of the Centenary of the Bucharest Observatory of the  
Astronomical Institute of the Romanian Academy I was honored with the  
distinction “Placheta Jubiliară” (Jubilee Plaque) and medal, as an  
acknowledgement of special contributions to the development of the  
Romanian astronomy (1st of April 2008)

Erasmus fellowship at Rheinische Friedrich-Wilhelms-Universität Bonn  
(09.2000-07.2001), Bonn, Germany

### Conferences, workshops, summer schools:

Participant at “3rd Hinode Science Meeting“, 1-4 December, 2009, Tokyo,  
Japan

Participant at “Second Practical School on Spectroscopy“, 5-11 October,  
2009, Rozhen National Astronomical Observatory, Rozhen, Bulgaria

Participant at IAU Symposium 259: “Cosmic Magnetic Fields:  
from Planets, to Stars and Galaxies“, 3-7 November, 2008, Puerto Santiago,  
Tenerife, Spain

Participant at “Exploring the Solar System and the Universe” international conference, 8–12 April 2008, Bucharest, Romania

Participant at “Flows, Boundaries, Interactions” international workshop, 3-5 May, 2007, Sinaia, Romania

LOC at “Astrophysics, Dynamical Systems and Fractals – past and future”, 26-27 April, 2007, Bucharest, Romania

Participant at “The Third European Space Weather Week” conference, 13-19 November, 2006, Brussels, Belgium

Participant at the conference “Fifty Years of Romanian Astrophysics”, 26-30 September, 2006, Bucharest, Romania

Participant at “Zilele Academice Clujene” conference, 26 June -14 July, 2006, Cluj-Napoca, Romania

Participant at “Physics Conference TIM-05”, 25-26 November, 2005, Timisoara, Romania

Participant at “Scientific Programs and Astronomy Education in SEE and Ukraine”, 16–18 September, 2005, Bucharest, Romania

Participant at "Albert Einstein Century Conference", Paris, France, 18 - 22 July, 2005

Participant at EPS13 Conference “Beyond Einstein – Physics for the 21st Century”, Bern, Switzerland, 11-15 July, 2005

Participant at "British - Romanian - Hungarian N+N+N Workshop for Young Researchers on Plasma- and Astrophysics: from laboratory to outer space", Cluj-Napoca, Romania, 17-19 January, 2005

Participant at the “Second Aegean Summer School on the Early Universe” organized between September 22 and September 30, 2003 in Ermoupoli, Island of Syros, Greece

Participant at the Cargèse Summer School: “Frontiers of the Universe” organized between September 8 and September 20, 2003 in Cargèse, France

Participant at “The 13<sup>th</sup> Jyväskylä Summer School” organized between August 11 and August 29, 2003 at the University of Jyväskylä, Finland  
Followed courses: *Neutrino Physics*, *Particle Astrophysics and Cosmology*, *Inflation* and *Modern Theory of Critical Phenomena*

Participant at the 12<sup>th</sup> National Conference of the Romanian Physical Society

“Trends in Physics”, Targu Mures, September 26-28, 2002

Participant at the conference XXXVIIth RENCONTRES DE MORIOND: “QCD and High Energy Hadronic Interactions” and “The Cosmological Model”, Les Arcs, France, March 16 - 23, 2002

Practical work and preparation of Master thesis at Max-Planck Institut für Radioastronomie, Bonn, Germany (01.11.2000 – 30.10.2001)

Participant at the International School of Astrophysics “D.Chalonge”: “Phase Transitions in the Early Universe: Theory and Observations”, Erice (Sicily), 6-17.12.2000

Participant at the “Astrophysics” course at the Bucharest University, in collaboration with Paris-Meudon Observatory and Paris-Sud University, 1999, 2000, 2001

Participant as Faculty of Physics, University of Bucharest, representative at the “Day of the open doors” organized by the Astronomical Institute of the Romanian Academy of Science - 1998 and 2000

Participant at the scientifically communication session of the Faculty of Physics, University of Bucharest, from 20.05-21.05.2000 with the theme “Planetary morphological analysis with fractal methods”

Participant at the experimental studies proposed for the total sun eclipse from 11.08.1999 (radio waves observations)

Participant at the 23-th International School for the Young Astronomers (ISYA), Faculty of Physics, Bucharest, 26.07-14.08.1999

Participant at the 10-th Annual Conference of the IUUA and at the 3-rd Conference of the IUUA - European Section for the Faculty of Physics of the Bucharest University (9.08-13.08.1999)

#### Scientific thesis, talks and presentations:

Scientific presentations at the Astronomical Institute of the Romanian Academy of Science – since 2001

“A filament study using data from SOHO and Hinode” at “3rd Hinode Science Meeting“, 1-4 December, 2009, Tokyo, Japan

“3D Reconstruction of Solar Magnetoacoustic Waves” at IAU Symposium 259: “Cosmic Magnetic Fields: from Planets, to Stars and Galaxies”, 3-7 November, 2008, Puerto Santiago, Tenerife, Spain

“Mass Estimates and Wave Propagation for the Eruptive Event of 8th of January 2002” and “Knot Based Large Scale Structure Code” at “Exploring

the Solar System and the Universe” international conference, 8–12 April, 2008, Bucharest, Romania

“Massive Star Winds and Trajectories around Black Holes” and “Heliospheric Electric and Magnetic Fields” at “Flows, Boundaries, Interactions” international workshop, 3-5 May, 2007, Sinaia, Romania

“Heliospheric Electric and Magnetic Fields” at “Astrophysics, Dynamical Systems and Fractals – past and future”, 26-27 April, 2007, Bucharest, Romania

“Topological Equivalent of the Solar Atmosphere and Heliosphere Magnetic Field” at “The Third European Space Weather Week”, 13-19 November, 2006, Brussels, Belgium

“Gravito-magnetic Heliospheric Surfaces” and “Electromagnetic and Gravitational Radiation from DEUS Black Holes” at the conference “Fifty Years of Romanian Astrophysics”, 26-30 September, 2006, Bucharest, Romania

“Istoria gaurilor negre cu structura interna: curgeri topologice si evolutie spatio-temporala” at “Preocupari actuale in astronomia dinamica” symposium (06.07.2006) and “Analiza efectului de picatura prin metode fractale aplicata pe tranzitul lui Venus din 2004” at “Interdisciplinaritate in Astrofizica Observationala” symposium (07.07.2006) from “Zilele Academice Clujene” conference, 26 June -14 July, 2006, Cluj-Napoca, Romania

“DEUS (Dimension Embedded in Unified Symmetry): SU(2) and SU(3)” at “Physics Conference TIM-05”, 25-26 November, 2005, Timisoara, Romania

"Dimension Embedded in Unified Symmetry (DEUS): Quantum Implications" and "Dimension Embedded in Unified Symmetry (DEUS): classical aspects", at “Scientific Programs and Astronomy Education in SEE and Ukraine”, 16–18 September, 2005, Bucharest, Romania

"Dimension Embedded in Unified Symmetry (DEUS)", at "Albert Einstein Century International Conference", Paris, France, 18 - 22 July, 2005

"DEUS: classical aspects", at EPS13 Conference “Beyond Einstein – Physics for the 21st Century”, Bern, Switzerland, 11-15 July, 2005

Astrophysical lectures hold at the Faculty of Physics, University of Bucharest, in the Erasmus internal intensive program: Intensive School of Astrophysics (academic years 2002-2003 and 2003-2004). Scope of the lectures: to teach the students not only Astronomy and Astrophysics (as part of the Astrophysics seminars for the course hold by Prof. Dr. Mircea V. Rusu), but also to teach them how to prepare for, create and give a scientific talk on a chosen topic of interest in the field.

Scientific poster presentation at the 12<sup>th</sup> National Conference of the Romanian Physical Society: “Stellar Evolution Models in pre-supernova stage” – 2002

Scientific oral presentation at the 12<sup>th</sup> National Conference of the Romanian Physical Society: “Cosmic Rays” – 2002

Master thesis: “Cosmic Ray Abundances. Models and Predictions for Wind Particles Acceleration in Supernova Shocks and for Transport in ISM” – 2001

Grant-aided scientific study for students: "Optical methods for atmospheric pollution monitoring" - 2000-2002

Collaborator at the theme “Intelligent System for measuring and monitoring of the atmosphere ionization” – IPA, 1999

Studies concerning the atmosphere electricity and the measuring systems: “Electrical phenomenon in the high atmosphere” – 1999 (graduating thesis) and “The atmosphere electricity” – 1999

Measuring of the sun eclipse influence on the VLF waves – 1999

#### [Papers, chapters and books:](#)

From 2004 to 2009, author of the chapter “Soarele” (“The Sun”) of the yearly published “Anuarul Astronomic”, Publisher: Editura Academiei Romane, Bucuresti, ISSN 0256-5277

“Solar Coronal Active Structures: Theoretical Approach and Instrumentation”; author: A.S. Popescu; Published in “Romanian Astronomical Journal”, vol. 14, Nr. 1, 2004

“Cosmic Rays Radiative Acceleration in Wolf-Rayet Stellar Winds”; author: A.S. Popescu; Published in “Romanian Astronomical Journal”, vol. 14, Nr. 2, 2004

“Branes in Supernova Shells”, author: A.S. Popescu, 2005, astro-ph/0505505

“Cosmic Rays Radiative Pre-Acceleration in Wolf-Rayet Stellar Winds”, in the proceedings of “British-Romanian-Hungarian N+N+N Workshop for Young Researchers”, “Plasma- and Astrophysics: from laboratory to outer space”, Edited by I. Ballai et. al., Publications of the Astronomy Department of the Eötvös Loránd University (PADEU), Vol. 15, Budapest, 2005, pg. 169-180, ISBN 963 463 557

“Cosmic Ray Origin and Propagation Model”, author: A.S. Popescu  
[https://www.researchgate.net/publication/1887180\\_Cosmic\\_Ray\\_Origin\\_and\\_Propagation\\_Model](https://www.researchgate.net/publication/1887180_Cosmic_Ray_Origin_and_Propagation_Model) ; <https://doi.org/10.48550/arXiv.0704.2718>

“Gravito-magnetic Heliospheric Surfaces”, author: A.S. Popescu; “Electromagnetic and Gravitational Radiation from DEUS Black Holes”, author: A.S. Popescu; “Huge Filament Observed in October 2001”, authors: C. Dumitrache, C. Oprea, D. Constantin, M. Mierla, A.S. Popescu; AIP Conference Proceedings Series “Fifty Years of Romanian Astrophysics”, Ed. C. Dumitrache et al., ISBN 978-0-7354-0400-7, 2007

“Venus’ Transit 2004: Observations and Analysis of the Black-Drop Effect”, authors: A.S. Popescu, M.V. Rusu, Published in “Romanian Astronomical Journal”, Vol. 17, No. 1, pg. 77, 2007

“D.E.U.S. Multiverse”, author: A.S. Popescu, Romanian Astronomical Journal, Vol. 17, Supplement, Proceedings of the Young Scientists’ International School “Heliosphere and Galaxy”, Eds. N.A. Popescu, V. Mioc, C. Dumitrache, pg. 127, 2007

“Soarele, steaua de langa noi”, authors: C. Dumitrache, M. Mierla, A.S. Popescu, C. Oprea, D. Constantin, A. Oncica, 2007, ISBN 973-778-099-X

The book “D.E.U.S. (Dimension Embedded in Unified Symmetry)”, author: A.S. Popescu, Publisher: Editura Cartea Universitara, first edition, ISBN: 978-973-731-519-9, arXiv: 0704.2670 [gr-qc], 2007

“Heliospheric Electric and Magnetic Fields”, author: A.S. Popescu; “Massive Star Winds and Trajectories around Black Holes”, author: A.S. Popescu; in AIP Conference Proceedings 934: “Flows, Boundaries, Interactions”, Ed. C. Dumitrache et al., ISBN 978-0-7354-0445-8, 2007

“Mass Estimates and Wave Propagation for the Eruptive Event of 8th of January 2002”, authors: A.S. Popescu, M. Mierla; “Knot Based Large Scale Structure Code”, author: A.S. Popescu ; in AIP Conference Proceedings 1043: “Exploring the Solar System and the Universe”, Eds. V. Mioc, C. Dumitrache, N.A. Popescu, ISBN 978-0-7354-0571-4, 2008

“Knot Based Large Scale Structure Code (complete paper)”, author: A.S. Popescu, arXiv:0810.1188

“3D Reconstruction of Solar Magnetoacoustic Waves”, author: A.S. Popescu; in IAUS Proc. Series No. 259: “Cosmic Magnetic Fields: from Planets, to Stars and Galaxies”, Eds. K.G. Strassmeier, A.G. Kosovichev, J.E. Beckman, Cambridge University Press, ISSN 1743-9213, pg. 239, 2009

“T.I.P.O. (Tesla Interferometric Planetary Observer)”, author: A.S. Popescu, arXiv:0902.3902

“Velocity Determinations for Magnetoacoustic Shock Waves from SOHO/EIT Images”, author: A.S. Popescu, “Romanian Astronomical Journal”, Vol. 19, No. 2, pg. 133, 2009

“Eclipsing Binary FX Draconis”, authors: S.G. Sorescu-Surdu, A.S. Popescu, A. Dumitrescu, “Romanian Astronomical Journal”, Vol. 21, No. 1, pg. 35, 2011

“The Variable LU Virginis”, authors: S.G. Sorescu-Surdu, A.S. Popescu, A. Dumitrescu, “Romanian Astronomical Journal”, Vol. 21, No. 2, pg. 95, 2011

“Micro-CMEs from Solar Active Regions”, author: A.S. Popescu, “Romanian Astronomical Journal”, Vol. 21, No. 2, pg. 99, 2011

“A Particular Filament in the Active Region 05, AxX”, authors: D.R. Constantin, A.S. Popescu, Published in Astronomical Society of the Pacific Conference Series Vol.454: “Hinode-3: The 3<sup>rd</sup> Hinode Science Meeting”, Eds. T. Sekii, T. Watanabe, T. Sakurai, Sheridan Books, ISBN: 978-1-58381-790-0, pg. 121, 2012

“Entropy, Information and Energy exchanges in the local flat spacetime”, author: A.S. Popescu, “Romanian Astronomical Journal”, Vol. 30, No. 2, pg. 113, 2020

“Polarization measuring astronomical instrument: An improved method”, author: A.S. Popescu, “Romanian Astronomical Journal”, Vol. 33, Nos. 1-2, pg. 67, 2023

“Hubble’s Law in the local flat spacetime”, author: A.S. Popescu, “Romanian Astronomical Journal”, Vol. 34, Nos. 1-2, pg. 3, 2024

Native language: Romanian

Foreign languages knowledge:

English (very good), Italian (good), French (satisfactory), Spanish (poor), German (poor)

PC using knowledge:

Operating systems: Linux, Windows  
Coding in: Mathematica, O-Matrix, IDL  
Actively learning and coding in Python

General research interests:

Astrophysics, Cosmology (classical and quantum), General Relativity, Topology, Fractals and Dynamical systems

Atmospheric Science, Environmental Sciences, Ecology

Special research interests:

Solar activity, Space Weather and its interactions with the Earth,  
Polarimetry (theory, instrumentation, observations and experiments),  
Stellar physics, Planetology, Galactic Evolution from early Universe to the  
present, Clusters of Galaxies, Large Scale Structure and matter distribution in  
Universe

Study of pollution and of its influence on Earth's atmosphere and biosphere,  
atmospheric electricity, nature and wildlife protection/conservation

Hobbies:

Trips in nature alone and with friends

Listening to rock music

Archaeology

Motorcycle riding (sometimes)