

Curriculum Vitae
Leandros Perivolaropoulos



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Department of Physics
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Ioannina
Tel.: 30-26510-20332
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Date of Birth: Sep. 13, 1963

WWW Home Page: <http://leandros.physics.uoi.gr>

Place of Birth : Athens, Greece

Citizenship: Greek

Marital Status : Married (3 children)

Research Productivity

Research Papers: 102
(<http://inspirehep.net/author/L.Perivolaropoulos.1/>)

Published Papers: 74

Citations: 2955 (<http://inspirehep.net/author/L.Perivolaropoulos.1/>)

Invited Talks: 25

Chapters in Books: 4

Conferences : 64

Talks at Conferences: 60

Other Publications : 22

h index: 29 (<http://inspirehep.net/author/L.Perivolaropoulos.1/>)

Different courses taught: 17

Education :

- 1988-91** **Brown University, U.S.A.**
September 1988 until May 1991
Degree earned: Ph.D. in Physics
(http://www.brown.edu/Departments/Physics/alumni_survey/search_alum.asp)
Thesis title: 'Macro and Micro Physics of Cosmic Strings' (**awarded honor by Sigma Xi Society**)
http://books.google.gr/books?id=2_nXtgAACAAJ&dq=inauthor:%22Leandros+Perivolaropoulos%22&hl=el&sa=X&ei=cysdUZelBcaY1AXgj4CIBQ&ved=0CDQQ6AEwAQ
Advisor: Professor Robert Brandenberger
(<http://www.physics.mcgill.ca/~rhb/>)
- 1986-88** **Brown University, U.S.A.**
September 1986 until June 1988
Degree: **Master** M. Sc. in Physics
- 1981-85** **University of Ioannina**
September 1981 until June 1985
Degree: **B. Sc. in Physics** (June 1985)
GPA: **Excellent 8 and 23/40** (Best grade in 1985 in the Department of Physics)
- 1998-99** **Hellenic Open University**
April 1998 - April 1999,
Degree: **Certificate of Postgraduate Training in Education**
Subject: **'Open and Distance Learning'**

Professional Experience:

- 2010 –present** **Professor**
Division of Theoretical Physics
Department of Physics
University of Ioannina, Greece
- 2002- 2010** **Associate Professor**
Division of Theoretical Physics
Department of Physics
University of Ioannina
- 1999- 2001** **Visiting Research Fellow**
Institute of Nuclear Physics
ΕΚΕΦΕ Democritos, Athens, Greece

**1999-present Counseling Professor at
Hellenic Open University**
Courses:
Open-Distance Learning (2000-2001)
Introduction to Physical Sciences (2001-present)

1996-1999 Visiting Professor
Department of Physics
University of Crete

1995-1996 Hellenic Artillery Forces
(military obligation)
(March 1995 - March 1996)

1994-1995 Research Fellow (invited by Prof. Guth)
MIT (Massachusetts Institute of Technology)
September 1994 until March 1995

1991-1994 Postdoctoral Research Fellow
<http://www.cfa.harvard.edu/opportunities/fellowships/cfapost/cfafellows.html>
(Harvard-Smithsonian Center for Astrophysics)
September 1991 until September 1994

1988-1991 Graduate Student Research Fellow
Department of Physics, Brown University, U.S.A.
September 1988 until September 1991

1986-1988 Teaching Assistant
Department of Physics, Brown University, U.S.A.
Courses: Introduction to Astronomy (1986-87)
Quantum Mechanics I (1987-88)

1985-1986 Graduate Student Research Fellow
National Research Foundation (Athens, Greece)
Division of Atomic Physics

Societies:
(former or
current member)

Sigma Xi, The Scientific Research Society
American Physical Society
American Astronomical Society
Hellenic Astronomical Society
Hellenic Society for the Study of High Energy Physics

Awards:

- 2008** Distinguished Referee Award by the American Physical Society (1% of Referees of APS worldwide, 3 awards to Greek Faculty: Economou, Labropoulos, Perivolaropoulos):
<http://publish.aps.org/OutstandingReferees>
- 1991** Award for Outstanding PhD Thesis at Brown University.
Awarded by Sigma Xi, Scientific Research Society Awards Fellowships by the National Fellowship Foundation: 1982-85

Research Publication in International Refereed Journals:

74) **CMB Maximum Temperature Asymmetry Axis: Alignment with Other Cosmic Asymmetries**
[Antonio Mariano](#), [Leandros Perivolaropoulos](#), Nov 2012. 8 pp.

Published Phys. Rev. D **87**, (2013) 043511

e-Print: [arXiv:1211.5915](#) [astro-ph.CO] | [PDF](#) (accepted in Phys. Rev. D. (to appear))

73) **Is there correlation between Fine Structure and Dark Energy Cosmic Dipoles?**

[Antonio Mariano](#) ([Salento U.](#) & [INFN, Lecce](#) & [Aristotle U., Thessaloniki](#)), [Leandros Perivolaropoulos](#) ([Ioannina U.](#)). Jun 2012. 10 pp.

Published in Phys.Rev. D86 (2012) 083517

72) **Testing General Relativity Using the Evolution of Linear Bias.**

[S. Basilakos](#), [J.B. Dent](#), [S. Dutta](#), [L. Perivolaropoulos](#), [M. Plionis](#). May 2012. 11 pp. Note: * Temporary entry
*; 11 pages, 3 figures, Published in **Phys.Rev. D85 (2012) 123501**

e-Print: [arXiv:1205.1875](#) [astro-ph.CO]

71) **Topological Quintessence.**

[Juan C. Bueno Sanchez](#) ([Madrid U.](#)), [Leandros Perivolaropoulos](#) ([Ioannina U.](#)). Oct 2011. 10 pp.

Published in **Phys.Rev. D84 (2011) 123516**

e-Print: [arXiv:1110.2587](#) [astro-ph.CO]

70) **Generalized LTB model with Inhomogeneous Isotropic Dark Energy: Observational Constraints.**

[J. Grande](#) ([Barcelona U.](#)), [L. Perivolaropoulos](#) ([Ioannina U.](#)). Mar 2011. 18 pp.

Published in **Phys.Rev. D84 (2011) 023514**

e-Print: [arXiv:1103.4143](#) [astro-ph.CO]

69) **Searching for a Cosmological Preferred Axis: Union2 Data Analysis and Comparison with Other Probes.**

[I. Antoniou](#), [L. Perivolaropoulos](#), . Jul 2010. 8pp.

Published in **JCAP 1012:012,2010**.

e-Print: [arXiv:1007.4347](#)

68) **Evolution of Dark Energy Perturbations in Scalar-Tensor Cosmologies.**

[J.C.Bueno Sanchez](#), [L. Perivolaropoulos](#), ([Ioannina U.](#)) . Feb 2010. (Published May 15, 2010). 15pp.

Published in **Phys.Rev.D81:103505,2010**.

e-Print: [arXiv:1002.2042](#)

- 67) **PPN Parameter γ and Solar System Constraints of Massive Brans-Dicke Theories.**
[L. Perivolaropoulos](#), ([Ioannina U.](#)) . Nov 2009. (Received Feb 15, 2010). 4pp.
 Published in **Phys.Rev.D81:047501,2010**.
 e-Print: [arXiv:0911.3401](#) [gr-qc]
- 66) **Comparison of Recent SNIa datasets.**
[J.C.Bueno Sanchez](#), [S. Nesseris](#), [L. Perivolaropoulos](#), . Aug 2009. 12pp. Published in **JCAP 0911:029,2009**.
 e-Print: [arXiv:0908.2636](#) [astro-ph.CO]
- 65) **The spherical collapse model and cluster formation beyond the Λ cosmology: Indications for a clustered dark energy?**
[Spyros Basilakos](#), ([RCAAM, Academy of Athens](#)) , [J.C. Bueno Sanchez](#), [Leandros Perivolaropoulos](#), ([Ioannina U.](#)) . Aug 2009. 12pp.
 Published in **Phys.Rev.D80:043530,2009**.
 e-Print: [arXiv:0908.1333](#) [astro-ph.CO]
- 64) **New Parametrization for the Scale Dependent Growth Function in General Relativity.**
[James B. Dent](#), [Sourish Dutta](#), [Leandros Perivolaropoulos](#) . Mar 2009. 7pp.
 Published in **Phys. Rev. D 80, 023514 2009**
 e-Print: [arXiv:0903.5296](#) [astro-ph.CO]
- 63) **Kink-Antikink Formation from an Oscillation Mode by Sudden Distortion of the Evolution Potential.**
[C.S. Carvalho](#) ([KwaZulu Natal U.](#)) , [L. Perivolaropoulos](#) ([Ioannina U.](#)) . Jan 2009. 8pp.
 Published in **Phys. Rev. D 79, 123502 (2009)**
 e-Print: [arXiv:0901.4109](#) [hep-ph]
- 62) **Bright High z SNIa: A Challenge for LCDM?**
[L. Perivolaropoulos](#) ([Ioannina U.](#)) , [A. Shafieloo](#) ([Oxford U.](#)) . Nov 2008. 7pp.
 Published in **Phys.Rev.D79:123502,2009**.
 e-Print: [arXiv:0811.2802](#) [astro-ph]
- 61) **Testing GRBs as Standard Candles.**
 S. Basilakos, L. Perivolaropoulos . May 2008.
 Published in **Mon.Not.Roy.Astron.Soc.391:411-419,2008**.
 e-Print: [arXiv:0805.0875](#) [astro-ph]
- 60) **Is the CMB shift parameter connected with the growth of cosmological perturbations?**
 S. Basilakos, S. Nesseris, L. Perivolaropoulos . Apr 2008. 6pp.
 Published in **Mon.Not.Roy.Astron.Soc.387:1126-1130,2008**.
 e-Print: [arXiv:0804.1631](#) [astro-ph]
- 59) **Vacuum energy, the cosmological constant, and compact extra dimensions: Constraints from Casimir effect experiments.**
 Leandros Perivolaropoulos ([Ioannina U.](#)) . Feb 2008. 5pp.
 Published in **Phys.Rev.D77:107301,2008**.
 e-Print: [arXiv:0802.1531](#) [astro-ph]
- 58) **Comparison of Standard Ruler and Standard Candle constraints on Dark Energy Models.**
 R. Lazkoz, S. Nesseris, L. Perivolaropoulos . Dec 2007. 9pp.
 Published in **JCAP 0807:012,2008**.
 e-Print: [arXiv:0712.1232](#) [astro-ph]
- 57) **Testing Λ CDM with the Growth Function $\delta(a)$: Current Constraints.**
 S. Nesseris, Leandros Perivolaropoulos ([Ioannina U.](#)) . Oct 2007. 6pp.

Published in **Phys.Rev.D77:023504,2008**.
e-Print: **arXiv:0710.1092** [astro-ph]

56) Reconstruction of the Scalar-Tensor Lagrangian from a LCDM Background and Noether Symmetry.

S. Capozziello (Naples U. & INFN, Naples) , S. Nesseris, L. Perivolaropoulos (Ioannina U.) . May 2007.
Published in **JCAP 0712:009,2007**.
e-Print: **arXiv:0705.3586** [astro-ph]

55) Cosmic Acceleration Data and Bulk-Brane Energy Exchange.

C. Bogdanos, S. Nesseris, L. Perivolaropoulos, K. Tamvakis (Ioannina U.) . May 2007. 12pp.
Published in **Phys.Rev.D76:083514,2007**.
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54) Can $f(R)$ Modified Gravity Theories Mimic a LCDM Cosmology?

S. Fay (Queen Mary, U. of London, Math. Sci.) , S. Nesseris, L. Perivolaropoulos (Ioannina U.) . Mar 2007.
Published in **Phys.Rev.D76:063504,2007**.
e-Print: **gr-qc/0703006**

53) Tension and Systematics in the Gold06 SNIa Dataset.

S. Nesseris, Leandros Perivolaropoulos (Ioannina U.) . Dec 2006. 10pp.
Published in **JCAP 0702:025,2007**.
e-Print: **astro-ph/0612653**

52) The Limits of Extended Quintessence.

S. Nesseris, Leandros Perivolaropoulos (Ioannina U.) . Nov 2006. 9pp.
Published in **Phys.Rev.D75:023517,2007**.
e-Print: **astro-ph/0611238**

51) Crossing the Phantom Divide: Theoretical Implications and Observational Status.

S. Nesseris, Leandros Perivolaropoulos (Ioannina U.) . Oct 2006. 18pp.
Published in **JCAP 0701:018,2007**.
e-Print: **astro-ph/0610092**

50) Evolving newton's constant, extended gravity theories and snia data analysis.

S. Nesseris, Leandros Perivolaropoulos (Ioannina U.) . Feb 2006.
Published in **Phys.Rev.D73:103511,2006**.
e-Print Archive: **astro-ph/0602053**

49) COMPARISON OF THE LEGACY AND GOLD SNIA DATASET CONSTRAINTS ON DARK ENERGY MODELS.

By S. Nesseris, Leandros Perivolaropoulos (Ioannina U.),. Nov 2005.
Published in **Phys.Rev.D72:123519,2005**
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48) CROSSING THE PHANTOM DIVIDE BARRIER WITH SCALAR TENSOR THEORIES.

By Leandros Perivolaropoulos (Ioannina U.),. Apr 2005. 9pp.
Published in **JCAP 0510:001,2005**
e-Print Archive: **astro-ph/0504582**

47) EXPLORING COSMOLOGICAL EXPANSION PARAMETRIZATIONS WITH THE GOLD SNIA DATASET.

By R. Lazkoz (Basque U., Bilbao), S. Nesseris, Leandros Perivolaropoulos (Ioannina U.),. Mar 2005.
Published in **JCAP 0511:010,2005**
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- 46) **CONSTRAINTS ON LINEAR NEGATIVE POTENTIALS IN QUINTESSENCE AND PHANTOM MODELS FROM RECENT SUPERNOVA DATA.**
By Leandros Perivolaropoulos (Ioannina U.),. Dec 2004. 7pp.
Published in **Phys.Rev.D71:063503,2005**
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- 45) **THE FATE OF BOUND SYSTEMS IN PHANTOM AND QUINTESSENCE COSMOLOGIES.**
By S. Nesseris, Leandros Perivolaropoulos (Ioannina U.),. Oct 2004.
Published in **Phys.Rev.D70:123529,2004**
e-Print Archive: **astro-ph/0410309**
- 44) **A COMPARISON OF COSMOLOGICAL MODELS USING RECENT SUPERNOVA DATA.**
By S. Nesseris, Leandros Perivolaropoulos (Ioannina U.),. Jan 2004.
Published in **Phys.Rev.D70:043531,2004**
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- 43) **CORE STRUCTURE OF GLOBAL VORTICES IN BRANE WORLD MODELS.**
By L. Perivolaropoulos (Ioannina U.),. Jul 2003. 6pp.
Published in **Phys.Rev.D68:123510,2003**
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- 42) **EQUATION OF STATE OF OSCILLATING BRANS-DICKE SCALAR AND EXTRA DIMENSIONS.**
By L. Perivolaropoulos (Ioannina U.),. Jan 2003. 9pp.
Published in **Phys.Rev.D67:123516,2003**
e-Print Archive: **hep-ph/0301237**
- 41) **ROTATING TOROIDAL BRANES IN SUPERMEMBRANE AND MATRIX THEORY.**
By M. Axenides (Democritos Nuclear Research Center), E.G. Floratos (Democritos Nuclear Research Center & Athens Nat. Capodistrian U.), L. Perivolaropoulos (Democritos Nuclear Research Center & Patras U.). Jun 2002. 7pp.
Published in **Phys.Rev.D66:085006,2002** e-Print Archive: **hep-th/0206116**
- 40) **COSMOLOGICAL EFFECTS OF RADION OSCILLATIONS.**
By L. Perivolaropoulos, C. Sourdis (Patras U.). Apr 2002. 7pp.
Published in **Phys.Rev.D66:084018,2002**
e-Print Archive: **hep-ph/0204155**
- 39) **DARK ENERGY AND THE QUIETNESS OF THE LOCAL HUBBLE FLOW.**
By M. Axenides (Democritos Nuclear Research Center), L. Perivolaropoulos (Patras U.). Jan 2002. 4pp.
Published in **Phys.Rev.D65:127301,2002**
e-Print Archive: **astro-ph/0201524**
- 38) **QUADRUPOLE INSTABILITIES OF RELATIVISTIC ROTATING MEMBRANES.**
By M. Axenides (Democritos Nuclear Research Center), E.G. Floratos (Democritos Nuclear Research Center & Athens Nat. Capodistrian U.), L. Perivolaropoulos (Democritos Nuclear Research Center). May 2001. 5pp.
Published in **Phys.Rev.D64:107901,2001**
e-Print Archive: **hep-th/0105292**
- 37) **METASTABLE RINGLIKE SEMITOPOLOGICAL SOLITONS**
By Minos Axenides (Democritos Nuclear Research Center), Stavros Komineas (Bayreuth U.), Leandros Perivolaropoulos, Manolis Floratos (Democritos Nuclear Research Center).
Published in **Phys.Rev. Lett. 86, 4423 2001**
e-Print Archive: **hep-ph/0101193**

36) CONSTRUCTION OF COSMIC STRING INDUCED TEMPERATURE ANISOTROPY MAPS WITH CMBFAST AND STATISTICAL ANALYSIS.

By N. Simatos (Crete U.), L. Perivolaropoulos (Democritos Nuclear Research Center). Sep 2000. 6pp.

Published in **Phys.Rev.D63:025018,2001**

e-Print Archive: **astro-ph/0009294**

35) METASTABILITY OF SPHERICAL MEMBRANES IN SUPERMEMBRANE AND MATRIX THEORY.

By M. Axenides, E.G. Floratos, L. Perivolaropoulos (Democritos Nuclear Research Center). Jul 2000. 8pp.

Published in **JHEP 0011:020,2000**

e-Print Archive: **hep-th/0007198**

34) SOME DYNAMICAL EFFECTS OF THE COSMOLOGICAL CONSTANT.

By M. Axenides, E.G. Floratos, L. Perivolaropoulos (Democritos Nuclear Research Center). Apr 2000. e-

Print Archive: **astro-ph/0004080.**

Published in **Mod. Phys. Lett. A, Vol. 15, No. 25 (2000) pp. 1541-1550.**

33) STABILIZING TEXTURES IN (3+1)-DIMENSIONS WITH SEMILOCALITY.

By L. Perivolaropoulos (Democritos Nuclear Research Center). Jan 2000. 4pp.

Published in **Phys.Rev.D62:047301,2000**

e-Print Archive: **hep-ph/0001181**

32) SUPERCONDUCTING STRING TEXTURE.

By L. Perivolaropoulos (Democritos Nuclear Research Center), T.N. Tomaras (Crete U.). Nov 1999. 14pp.

Published in **Phys.Rev.D62:025012,2000**

e-Print Archive: **hep-ph/9911227**

31) DYNAMICS OF NONTOPOLOGICAL SOLITONS: Q BALLS.

By Minos Axenides (Democritos Nuclear Research Center), Stavros Komineas (Bayreuth U.), Leandros Perivolaropoulos, Manolis Floratos (Democritos Nuclear Research Center). Oct 1999. 12pp.

Published in **Phys.Rev.D61:085006,2000**

e-Print Archive: **hep-ph/9910388**

30) NEW STATISTICAL TESTS APPLIED ON THE FOUR-YEAR COBE-DMR MAPS.

By L. Perivolaropoulos, N. Simatos (Crete U.). 1998.

Published in **Mod.Phys.Lett.A13:2945-2954,1998**

29) SEARCHING FOR LONG STRINGS IN CMB MAPS.

By L. Perivolaropoulos (Crete U.). CRETE-HEP-14, Mar 1998. 11pp.

Published in **Phys.Rev.D58:103507,1998**

e-Print Archive: **astro-ph/9803292**

28) CORE PHASE STRUCTURE OF COSMIC STRINGS AND MONOPOLES.

By M. Axenides (Democritos Nuclear Research Center), L. Perivolaropoulos, T.N. Tomaras (Crete U. & Heraklion, Research Ctr. of Crete). CRETE-98-10, Mar 1998. 6pp.

Published in **Phys.Rev.D58:103512,1998**

e-Print Archive: **hep-ph/9803355**

27) PHASE TRANSITIONS IN THE CORE OF GLOBAL EMBEDDED DEFECTS.

By Minos Axenides (Democritos Nuclear Research Center), Leandros Perivolaropoulos (Crete U.), Mark Trodden (Case Western Reserve U.). CRETE-97-20, CWRU-P22-97, Dec 1997. 13pp.

Published in **Phys.Rev.D58:083505,1998**

e-Print Archive: **hep-ph/9801232**

26) TOPOLOGICAL DEFECTS WITH NONSYMMETRIC CORE.

By Minos Axenides (Democritos Nuclear Research Center), Leandros Perivolaropoulos (Crete U.). CRETE-

97-10, DEMO-HEP-97-02, Jan 1997. 18pp.
Published in **Phys.Rev.D56:1973-1981,1997**
e-Print Archive: **hep-ph/9702221**

25) SPECTRA AND STATISTICS OF COSMIC STRING PERTURBATIONS ON THE MICROWAVE BACKGROUND: A MONTE CARLO APPROACH.

By Andrea M. Gilbert, Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.). CFA-4019, Jan 1995. 22pp.
Published in **Astropart.Phys.3:283-294,1995**
e-Print Archive: **astro-ph/9502004**

24) FORMATION OF VORTICES IN FIRST ORDER PHASE TRANSITIONS.

By Alejandra Melfo (SISSA, Trieste & Andes U., Merida), Leandros Perivolaropoulos (MIT, LNS & Brown U.). MIT-CTP-2398, BROWN-HET-983, SISSA-2-95-A, Dec 1994. 19pp.
Published in **Phys.Rev.D52:992-998,1995**
e-Print Archive: **hep-ph/9501284**

23) COSMIC STRINGS & COSMIC VARIANCE.

By Alejandro Gangui (SISSA, Trieste), Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.). CFA-3915, SISSA-107-94-A, Aug 1994. 13pp.
Published in **Astrophys.J.447:1-7,1995**
e-Print Archive: **astro-ph/9408034**

22) STATISTICS OF MICROWAVE BACKGROUND FLUCTUATIONS INDUCED BY TOPOLOGICAL DEFECTS.

By L. Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.). 1993.
Published in **Phys.Rev.D48:1530-1538,1993**
e-Print: **hep-ph/9212228**

21) STABLE, SPINNING EMBEDDED VORTICES.

By Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.). CFA-3824, Mar 1994. 12pp.
Published in **Phys.Rev.D50:962-966,1994**
e-Print Archive: **hep-ph/9403298**

20) SPECTRAL ANALYSIS OF MICROWAVE BACKGROUND PERTURBATIONS INDUCED BY COSMIC STRINGS.

By Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.). CFA-3796, Feb 1994. 22pp.
Published in **Astrophys.J.451:429-435,1995**
e-Print Archive: **astro-ph/9402024**

19) ASYMPTOTICS OF NIELSEN-OLESEN VORTICES.

By Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.). CFA-3707, Sep 1993. 5pp.
Published in **Phys.Rev.D48:5961-5962,1993**
e-Print Archive: **hep-ph/9310264**

18) EXISTENCE OF DOUBLE VORTEX SOLUTIONS.

By Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys. & Brown U.). CFA-3702, Jun 1993. 12pp.
Published in **Phys.Lett.B316:528-533,1993**
e-Print Archive: **hep-ph/9309261**

17) A COSMIC STRING SPECIFIC SIGNATURE ON THE COSMIC MICROWAVE BACKGROUND.

By R. Moessner (Brown U.), L. Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.), R. Brandenberger (Brown U.). BROWN-HET-911, CFA-3758, Jun 1993. 25pp.

Published in **Astrophys.J.425:365-371,1994**
e-Print Archive: **astro-ph/9310001**

16) STABILITY OF ELECTROWEAK STRINGS.

By M. James (Cambridge U.), L. Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.), T. Vachaspati (Tufts U.). 1992.

Published in **Phys.Rev.D46:5232-5235,1992**

15) PECULIAR VELOCITIES AND MICROWAVE BACKGROUND ANISOTROPIES FROM COSMIC STRINGS.

By Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.), Tanmay Vachaspati (Tufts U.). CFA-3590, Mar 1993. 14pp.

Published in **Astrophys.J.423:L77-L80,1994** (No.3)

e-Print Archive: **hep-ph/9303242**

14) THE FOURIER SPACE STATISTICS OF SEED - LIKE COSMOLOGICAL PERTURBATIONS.

By Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.). CFA-3591, Mar 1993. 13pp.

Published in **M.N.R.A.S. 267, 529 (1994).**

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13) DETAILED STABILITY ANALYSIS OF ELECTROWEAK STRINGS.

By Margaret James (Cambridge U.), Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.), Tanmay Vachaspati (Tufts U.). CFA-3542, Dec 1992. 19pp.

Published in **Nucl.Phys.B395:534-546,1993**

e-Print Archive: **hep-ph/9212301**

12) COBE VS. COSMIC STRINGS: AN ANALYTICAL MODEL.

By Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.). CFA-3467, Aug 1992. 18pp.

Published in **Phys.Lett.B298:305-311,1993**

e-Print Archive: **hep-ph/9208247**

11) LARGE SCALE STRUCTURE BY GLOBAL MONOPOLES AND COLD DARK MATTER.

By L. Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys. & Brown U.). CFA-3377, Feb 1992. 10pp.

Published in **Mod.Phys.Lett.A7:903-910,1992**

e-Print Archive: **hep-ph/9207255**

10) NONTOPOLOGICAL GLOBAL FIELD DYNAMICS.

By Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys. & Brown U.). CFA-3393, Apr 1992. 14pp.

Published in **Phys.Rev.D46:1858-1862,1992**

e-Print Archive: **hep-ph/9207256**

9) DYNAMICAL SIMULATIONS OF SEMILOCAL STRINGS.

By Ana Achucarro (Tufts U.), Konrad Kuijken, Leandros Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys.), Tanmay Vachaspati (Tufts U.). CFA-3384, Mar 1992. 24pp.

Published in **Nucl.Phys.B388:435-456,1992**

8) INSTABILITIES AND INTERACTIONS OF GLOBAL TOPOLOGICAL DEFECTS.

By Leandros Perivolaropoulos (Brown U. & Harvard-Smithsonian Ctr. Astrophys.). BROWN-HET-802, Apr 1991. 50pp.

Published in **Nucl.Phys.B375:665-694,1992**

7) BLACK HOLES IN A PERIODIC UNIVERSE.

By A.R. Bogojevic (Bohr Inst.), L. Perivolaropoulos (Brown U.). BROWN-HET-757, Sep 1990. 13pp.

Published in **Mod.Phys.Lett.A6:369-376,1991**

6) SCATTERING OF FERMIONS FROM A COSMIC STRING.

By W.B. Perkins (Cambridge U.), L. Perivolaropoulos (Brown U.), A.C. Davis (Cambridge U.), R.H. Brandenberger, A. Matheson (Brown U.). BROWN-HET-751, May 1990. 43pp.
Published in **Nucl.Phys.B353:237-270,1991**

5) CATALYSIS OF PROTON DECAY BY COSMIC STRINGS AT FINITE TEMPERATURE.

By Andrew Matheson, Leandros Perivolaropoulos, Warren Perkins (Brown U.), Anne-Christine Davis (Brown U. & Cambridge U.), Robert H. Brandenberger (Brown U.). BROWN-HET-747, Mar 1990. 10pp.
Published in **Phys.Lett.B248:263-267,1990**

4) NONABELIAN AHARONOV-BOHM BARYON DECAY CATALYSIS.

By Leandros Perivolaropoulos, Andrew Matheson, Anne-Christine Davis, Robert H. Brandenberger (Brown U.). BROWN-HET-739, Jan 1990. 11pp.
Published in **Phys.Lett.B245:556-560,1990, Erratum-ibid.B369:378,1996**

3) COSMIC STRINGS, HOT DARK MATTER AND THE LARGE SCALE STRUCTURE OF THE UNIVERSE.

By Robert H. Brandenberger, Leandros Perivolaropoulos (Brown U.), Albert Stebbins (Toronto U.). BROWN-HET-732, Oct 1989. 27pp.
Published in **Int.J.Mod.Phys.A5:1633,1990**

2) DISSIPATIONLESS CLUSTERING OF NEUTRINOS IN COSMIC STRING INDUCED WAKES.

By Leandros Perivolaropoulos, Robert H. Brandenberger (Brown U.), Albert Stebbins (Canadian Inst. Theor. Astrophys.). BROWN-HET-711, NSF-ITP-89-145, Jul 1989. 33pp.
Published in **Phys.Rev.D41:1764,1990**

1) PROTON DECAY CATALYZED BY SUPERCONDUCTING COSMIC STRINGS.

By Robert H. Brandenberger, Leandros Perivolaropoulos (Brown U.). BROWN-HET-657, Apr 1988. 14pp.
Published in **Phys.Lett.B208:396,1988**

Total number of citations: more than 2926 (database inspire <http://inspirehep.net/>)
http://inspirehep.net/search?ln=el&ln=el&p=f+a+perivolaropoulos&of=hcs&action_search=%CE%91%CE%BD%CE%B1%CE%B6%CE%AE%CF%84%CE%B7%CF%83%CE%B7&sf=&so=d&rm=&rg=25&sc=0

Editor in Proceedings:

Recent developments in gravity. Proceedings, 14th Conference, NEB XIV, Ioannina, Greece, June 8-11, 2010.

Leandros Perivolaropoulos, (ed.), Panagiota Kanti, (ed.) (Ioannina U.). 2011.
Conference: [C10-06-08](#) (J. Phys. Conf. Ser. 283 (2011) nonconsec. pag)

Chapters in Books:

(4) Six Puzzles for LCDM Cosmology.

L. Perivolaropoulos . Nov 2008

Invited chapter to the TSPU anniversary volume "The Problems of Modern Cosmology" on the occasion of the 50th birthday of Prof. S. D. Odintsov
e-Print: [arXiv:0811.4684](#) [astro-ph]

(3) Accelerating universe: Observational status and theoretical implications.

Leandros Perivolaropoulos (Ioannina U.) . 2007. 34pp.

Published in **Lect.Notes Phys.720:257-290,2007.**
<http://www.springerlink.com/content/u667nq24q103818r/>

(2) **Power spectrum of cosmic string perturbations on the microwave background.**
[Leandros Perivolaropoulos](#) ([Harvard-Smithsonian Ctr. Astrophys.](#)) . Jan 1994. 18pp.
Invited talk at International Conference on Unified Symmetry - in the Small and in the Large, Coral Gables, FL, 27-30 Jan 1994.
Published in *Unified Symmetry* 1994:0113-128 ([QCD161:C6:1994](#)) (**Plenum Publishing Corporation**)
<http://www.amazings.com/sbb/reviews/review0014.html>

(1) **Cosmic string theory: The Current status.**
[Leandros Perivolaropoulos](#) ([MIT, LNS & Brown U.](#)) . MIT-CTP-2375, BROWN-HET-971, Oct 1994. 66pp.
Published in *Trieste HEP Cosmology* 1994:0204-270 ([QCD161:W626:1994](#))
<http://bookshop.blackwell.co.uk/jsp/id/9789810222918/Proceedings>
e-Print Archive: astro-ph/9410097.

Other Research Papers - Publications:

(22) **Consistency of LCDM with Geometric and Dynamical Probes**
[L. Perivolaropoulos](#). Feb 2010. 20 pp.
Published in **J.Phys.Conf.Ser. 222 (2010) 012024**

(21) **LCDM: Triumphs, Puzzles and Remedies**
[L. Perivolaropoulos](#) ([Ioannina U.](#)). Apr 2011. 9 pp.
Invited talk at Conference: **New Directions in Modern Cosmology**, 27 Sep - 1 Oct 2010.
Leiden, The Netherlands
e-Print: [arXiv:1104.0539](#) [[astro-ph.CO](#)]

(20) **Dark energy and matter perturbations in scalar-tensor theories of gravity**
[J.C. Bueno Sanchez](#) ([Madrid U.](#) & [Ioannina U.](#)), [L. Perivolaropoulos](#) ([Ioannina U.](#)). 2011.
10 pp.
Published in **J.Phys.Conf.Ser. 283 (2011) 012006**

(19) **Accelerating universe and scalar-tensor theories.**
[Leandros Perivolaropoulos](#) ([Ioannina U.](#)) . 2007. 10pp.
Prepared for 12th Conference on Recent Developments in Gravity (NEB XII), Nafplio, Greece, 29 Jun - 2 Jul 2006.
Published in **J.Phys.Conf.Ser.68:012005,2007.**

(18) **Repulsive Gravity and the Accelerating Universe**
INTERNATIONAL SCIENTIFIC WORKSHOP ON COSMOLOGY AND GRAVITATIONAL PHYSICS Thessaloniki, December 15-16, 2005
<http://www.astro.auth.gr/Cosmology05/>
<http://www.astro.auth.gr/Cosmology05/Cosmo05.pdf>

(17) **Accelerating universe: observational status and theoretical implications.**
[Leandros Perivolaropoulos](#) ([Ioannina U.](#)) . Jan 2006.
Invited review at 3rd Aegean Summer School: The Invisible Universe: Dark Matter and Dark Energy, Karfas, Island of Chios, Greece, 26 Sep - 1 Oct 2005.
Published in **AIP Conf.Proc.848:698-712,2006.**

16) THE RISE AND FALL OF THE COSMIC STRING THEORY FOR COSMOLOGICAL PERTURBATIONS.

By Leandros Perivolaropoulos (Ioannina U.), Jan 2005.

Invited review given at DPU Workshop 2004: The Density Perturbation in the Universe, Athens, Greece, 25-26 Jun 2004.

Published in **Nucl.Phys.Proc.Suppl.148:128-140,2005**

e-Print Archive: **astro-ph/0501590**

(15) DARK ENERGY OR EXTRA DIMENSION OSCILLATIONS?

By L. Perivolaropoulos (Ioannina U.), May 2002. 6pp.

Prepared for 10th Greek Relativity Meeting on New Developments in Gravity (NEB X), Chalkidiki, Greece, 30 May - 2 Jun 2002.

Published in *Kalithea 2002, Recent developments in gravity* 97-102

(14) Διδασκαλία της Ευθύγραμμης Ομαλής Κίνησης με χρήση του προγράμματος Ασύγχρονης Τηλεκπαίδευσης Camtasia Studio.

Σύγκριση με την αντίστοιχη παραδοσιακή μέθοδο διδασκαλίας (με Γ. Ιατράκη και Κ. Κώτση) ΔΙΔΑΚΤΙΚΗ ΦΥΣΙΚΩΝ ΕΠΙΣΤΗΜΩΝ ΚΑΙ ΝΕΕΣ ΤΕΧΝΟΛΟΓΙΕΣ ΣΤΗΝ ΕΚΠΑΙΔΕΥΣΗ ΠΡΑΚΤΙΚΑ 5^{ου} ΠΑΝΕΛΛΗΝΙΟΥ ΣΥΝΕΔΡΙΟΥ, ΤΕΥΧΟΣ Γ' 15-18 Μαρτίου 2007. http://www.kodipheet.gr/fifth_conf/afisa.php

http://www.kodipheet.gr/fifth_conf/pdf_synedriou/teyxos_C/2_Didask_fys_NT/3_FYS-13.pdf

(13) Προσκεκλημένο Άρθρο “Η Πιλοτική Διδασκαλία του Μαθήματος ‘Νέες Τεχνολογίες στην Εκπαίδευση’ στο Φυσικό Τμήμα του Παν/μίου Κρήτης” δημοσιεύθηκε στο περιοδικό ‘Επιθεώρηση Φυσικής’ της Ένωσης Ελλήνων Φυσικών (“Επιθεώρηση Φυσικής”, περίοδος Γ, τόμος Η, σελ. 88 - 98, (1999)).

(12) “Superconducting Semilocal Stringy Textures”.

Presented at ESF

Network Workshop and Winter School: Les Houches: Topological Defects and the Nonequilibrium Dynamics of Symmetry Breaking Phase Transitions, Les Houches, France, 16-26 Feb 1999.

Published electronically in the School Proceedings.

e-Print Archive: **hep-ph/9903539**

(11) Conference **Co Chairman - Editor** of Conference Proceedings.

INSPIRE IV: Training and Teaching for the understanding of Software Quality.

(conference on New Technologies in Education, Heraklion 1999)

Published in 1999 by the British Computer Society.

(10) Core phase transitions for embedded topological defects.

Minos Axenides (Democritos Nucl. Res. Ctr.), **Leandros Perivolaropoulos (Crete U.)**. CRETE-98-13, DEMO-HEP-98-05, Feb 1998. 10pp.

Talk given at European Science Foundation Scientific Network Meeting on Topological Defects: Non-Equilibrium Field Theory in Particle Physics, Condensed Matter and Cosmology, Grenoble, France, 26 Sep - 2 Oct 1997.

e-Print: **hep-ph/9802395**

(9) “A New Statistic for the Detection of Long Strings in Microwave Background Maps”

CRETE-97-16, Jun 1997. 8pp. Presented at Particle Physics and the

Early Universe Conference: In Celebration of the Centenary of the Discovery of the Electron: Conference on Structure of the Microwave Background, Cambridge, England, 7-11 Apr 1997.

e-Print Archive: astro-ph/9706020

(8) **“Domain Walls and Vortices with Non-symmetric Core”**
with Minos Axenides (Democritos Nuclear Research Center),
CRETE-97-15, May 1997. 11pp. Presented at Particle Physics and the
Early Universe Conference: In Celebration of the Centenary of the
Discovery of the Electron: Conference on Structure of the
Microwave Background, Cambridge, England, 7-11 Apr 1997.
e-print Archive: hep-ph/9706226

(7) **“Existence and Stability of Embedded Spinning Vortices”**
Proceedings of NATO Advanced Research Workshop:
‘Electroweak Physics and the Early Universe’
Sintra (Portugal), March 1994.

(6) **Signatures of cosmic strings on the microwave background.**
L. Perivolaropoulos (Harvard-Smithsonian Ctr. Astrophys. & Brown U.) , R. Moessner,
Robert H. Brandenberger (Brown U.) . CFA-3797, Feb 1994. 12pp.
To appear in Proc. of Capri MBR Workshop, Capri, Italy, Sep 20-24, 1993.
e-Print: **astro-ph/9402023**

(5) **“Cosmic Strings and Large Scale Structure Formation”**
Proc. of ‘First Greek Astronomical Meeting’ Athens, September (1992).

(4) **“Large Scale Velocity Flows from Cosmic Strings”**
(with T. Vachaspati) Proc. of ‘Cosmic Velocity Fields’ IAP Astrophysics Meeting in
Paris (1993).

(3) **Book Review:** ‘The Early Universe: Facts and Fiction’ by
G. Boerner (with R. Brandenberger), **Am. J. Phys. 57 (1989) 1054**

(2) **“Large Scale Structure by Cosmic Strings”**
Proceedings of GR-12 Conference on General Relativity (1989).

(1) **“Structure Formation with Cosmic Strings and Neutrinos”**
Proceedings of A.P.S. Spring Meeting (1989).

Research Grants:

1. Research Grant (EE Network) UNIVERSENET (2006-2010)
http://www.physics.ox.ac.uk/universenet/universenet_members.htm#ioannina
2. Research Grant Pythagoras (2004-2006)
<http://users.uoi.gr/pythag/publications.html>
3. Research Grant (EE Network) COSLAB (2000 – 2003)
http://www.esf.org/fileadmin/be_user/research_areas/PESC/Documents/COSLABScientificReport3.pdf
4. Research Grant (EE Network) EUNET (2000-2004)
<http://www-thphys.physics.ox.ac.uk/users/SubirSarkar/eunetwork/members.html>

Administrative Action:

2012 Co-organizer of the annual conference of the Hellenic Society of
High Energy Physics at Ioannina (**2012**)

<http://hep2012.physics.uoi.gr/info.html>

- 2010** Organizer of the bi-annual conference ‘Recent developments in gravity’ (NEB XIV), Ioannina, Greece, June 8-11, 2010.
<http://neb14.physics.uoi.gr/index.files/organizers.htm>
- 2007-2010** Member of the Committee **for the reform of the Courses Curriculum** Department of Physics, Univ. of Ioannina
- 2007-2010** Associate Representative of the Department of Physics at the Board of Trustees of the University of Ioannina
- 2006-2012** Head of the Committee for the Evaluation of Educational Activities Department of Physics, University of Ioannina
- 2006** Co-organizer of the 6th International Workshop on the Identification of Dark Matter, IDM2006 (Πόδος, Σεπτ. 11-16 2006).
<http://elea.inp.demokritos.gr/index.php?pid=idm2006>
- 2006** Co-organizer (along with Profs. K. Tamvakis και I. Rizos) of the annual conference of the Hellenic Society of High Energy Physics at Ioannina (2006) <http://hep2006.physics.uoi.gr/>
- 2004** Co-organizer (along with Prof. Gialas) of the annual conference of the Hellenic Society of High Energy Physics at Chios (2004)
<http://hep2004.chios.aegean.gr/>
- 2003-05** Head of the Division of Theoretical Physics, Department of Physics, University of Ioannina
- 2002-06** Head of the Library Committee, Department of Physics, University of Ioannina
- 2002** Co-organizer (along with Prof. Bakas) of the annual conference of the Hellenic Society of High Energy Physics at Patras, Greece
- 1998** Proposal for the introduction of a new course to the curriculum committee of the Department of Physics at the University of Crete. Course Title: ‘New Technologies for the Education of Physical Sciences’ (<http://leandros.physics.uoi.gr/ph652>). Proposal Approval: July 1998 (The course was included in the Physics Courses Curriculum of the Physics Department)
- 1999** Invited Co-Chairman at the conference Inspire '99 on Educational

Software which took place at the Physics Department of the University of Crete organized by the British Computer Society (September 9-1, 1999). *INSPIRE IV Conference: Training and Teaching for the Understanding of Software Quality*, eds. C. Hawkins, E. Georgiadou, L. Perivolaropoulos, M. Ross and G. Staples, University of Crete, Greece.

- 1998** Representative of the Department of Physics (Univ. of Crete) in the Action 'Omospondo' funded by the EU for the creation of a Panhellenic digital library containing the courses taught in Greek Universities
- 1997** Scientific Coordinator (along with Associate Prof. G. Tsironis) of the Multimedia Lab at the Department of Physics of the University of Crete in the context of the action 'Alice' (funded by the EU) for the production of a physics educational CD for pupils of 7th-9th grade.
- 1997** Co-organizer (along with Prof. Athanasiou) of the annual conference of the Hellenic Society of High Energy Physics at Heraklion Crete in Greece.
- 1996** Organizer of the weekly Theoretical Physics Seminar at the Department of Physics of the University of Crete for the academic year 1996-97.
- 1992-94** Organizer of the CfA-Tufts-MIT cosmology seminar during the academic years 1992-93 και 1993-94.

Teaching Experience :

Courses Taught:

- 2011-present** Courses: '**Quantum Theory II**'.
Main course of physics curriculum (junior year, Spring Semester) at the Physics Department of University of Ioannina
Textbook used: Fitzpatrick, Quantum Mechanics
Web pages of of the course:
<http://ecourse.uoi.gr/course/view.php?id=32>
(click on 'Enter as Visitor')
(The web pages of the course include videos of all the lectures presented sample recent lecture (March 22, 2013):
<https://vimeo.com/couchmode/leandrosperi/videos/sort:date/62542943>)
- 2005-2011** Courses: '**Classical electrodynamics I-II**'.

Main courses of physics curriculum (junior year)
at the Physics Department of University of Ioannina
Textbook used: Griffiths, Introduction to electrodynamics
Web pages of Classical Electrodynamics I:
<http://ecourse.uoi.gr/course/view.php?id=45>
(The web pages of the course include sound recordings of the lectures)
Web pages of Classical Electrodynamics II:
<http://ecourse.uoi.gr/course/view.php?id=46>
(The web pages of the course include sound recordings of the lectures)

- 2002-2005** Courses: '**Classical Mechanics I and II**'. Main curriculum courses for sophomores (one semester each) at the Department of Physics of the University of Ioannina.
<http://leandros.physics.uoi.gr/cm1-04/>
<http://leandros.physics.uoi.gr/cm2-05/>
- 2005-today** Course: '**Gravity and Cosmology**'
Elective graduate course at the Physics Department
University of Ioannina
Textbook used: Dodelson, Modern Cosmology
- 2001-today** Course: 'Introduction to Physical Sciences' (FYE14)
Hellenic Open University (HOU).
Textbooks: Thomas, Calculus and Serway, Mechanics
<http://leandros.physics.uoi.gr/fye14-07/index.htm>
- 2002-2007** Course: '**Introduction to Modern Cosmology**'
Elective course for seniors at the Physics Department of the
University of Ioannina
- 1999-2000** Course: 'Open and Distance Learning'. Hellenic Open University
- 2002** Seminar series of three two hour lectures on **Topics on Modern Cosmology** Department of Physics, University of Patras
- 1998-99**
Course: '**New Technologies in the Education of Physical Sciences**'. New course taught at the Physics Department of the University of Crete for junior physics students. The course was approved after a proposal I made to the Physics Curriculum Committee of the Department of Physics where I described in detail the proposed course. The course was funded under the project 'Ifigeneia' of the EU.
' <http://leandros.physics.uoi.gr/ph652> '.
- 1996-98**
(Spring Semester) Course: '**Introduction to Modern Cosmology**'
Department of Physics Univ. of Crete, **1996-97 and 1997-98**

For senior undergraduate students and graduate students in physics.
A summary of the course was presented in a summer school.

1996-98
(Fall Semester)

Course: '**Topics in Modern Physics**' (for freshmen in physics)
Department of Physics, University of Crete

1996-97
(1st Semester)

Course: '**Uses of Computers**' (for freshmen in physics)
Department of Physics, University of Crete

1997 and 1998
(Summer)

Advanced Physics Summer Course
Department of Physics, University of Crete
Course offered: '**Introduction to Modern Cosmology**'
(10 Hours of lectures in 1997 and 6 hours in 1998).
<http://leandros.physics.uoi.gr/home/talks/cosmology.ppt>

1994
(Summer)

Trieste Summer School for High energy Physics and Cosmology
Course Offered: 'Cosmic String Theory: The Current Status' (8
hours of lectures).
Published in: 1994 Summer School in High Energy
Physics and Cosmology : Trieste, Italy 13 June-29 July,
1994 (The Ictp Series in Theoretical Physics, Vol 11)

1992-93 (Spring)

Course: '**Physics 25: Introduction to Astrophysics and
Cosmology**' Physics Department, Brown University

Theses Supervised:

2009-

PhD Thesis Advisor of the graduate student
Ioannis Antoniou (Univ. of Ioannina), Started in Academic Year
2009-10

2004-2008

PhD Thesis Advisor of the graduate student
Savvas Nesseris (University of Ioannina)
Thesis starting year: 2004-05
Thesis Title: *Cosmological Observational Predictions of
Generalized Gravity Theories*
Number of publications that were produced: [15](#)
Number of citations: [more than 1300](#) h index: 17
(database inspire: <http://inspirehep.net/>).
PhD Thesis Awarded: May 2008
Positions held since 2008 by Savvas Nesseris:
1. Postdoctoral Fellow at Niels Bohr Institute (2008-2011)

2. Postdoctoral Fellow at Instituto de Fisica Teorica (IFT) in Madrid Spain (2011-today).

- 2009-2010** **MSc Thesis** Advisor of the graduate student
Of the Graduate Student Ioannis Koukoumatsas
(Univ. Of Ioannina),
Thesis Title: **Internet based system for the Educational
Evaluation of Teachers/Professors**
- 2007-2009** **MSc Thesis** Advisor of the graduate student
Arsenia Horozidou (University of Ioannina)
Thesis Title: **Isotropy of the Hubble Diagram**
MSc Diploma Award: June 2009
- 2006** Supervision of MSc Theses on
New Technologies and Research on Physics Education, Physics
Department, University of Ioannina
Graduate Students: Georgia Iatraki
<http://leandros.physics.uoi.gr/theses/giatr/INDEX.HTM> and
Tassos Anagnostopoulos
<http://leandros.physics.uoi.gr/theses/anagno/ergasia.htm> .
- 1993-94** BSc thesis advisor of the undergraduate student
Andrea Gilbert (Harvard University), **Academic Year 1993-94**
Thesis title:
**'The Scale Invariance and Non-gaussian Features of
Cosmic String Perturbations Induced on the Microwave
Background'**.
The thesis was published at:
Astroparticle Physics 3, 283, (1995)
- Author of Educational Material:*
- 2007-08** Production of Interactive Multimedia Educational Material
in electronic form for the Hellenic Open University:
Hypertext 100 pages with subject:
'Introduction to the Special and General Theory of Relativity.'
Videlectures (webcasts) of 11 hours duration with subject:
'Introduction to Cosmology'
Multiple choice questions in interactive environment
on the following subjects:
Quantum Physics (75 questions)
Mathematics (60 questions)
Electromagnetism (90 questions)
- 2005** Author of the book **Study Guide for Electromagnetism** (300
pages). Adopted for the graduate course of Hellenic Open

University: Advanced Studies in Physical Sciences ASP50.

2003-2004

Production of Electromagnetism videolectures for the Hellenic Open University (13 hours of videolectures)

Invited Talks:

26. Invited talk at the Univ. Paris Sud (Orsay) (invited by Prof. Christos Charmousis) Jan. 16, 2013. Seminar title: 'Is there a fundamental cosmic dipole?'

http://www.th.u-psud.fr/rubrique.php3?id_rubrique=30

25. Invited **public talk** at the National Research Foundation in the context of the Festival for Science and Technology (Athens, Greece).

Title of talk: Recent Developments in Modern Cosmology.

<http://helios-eie.ekt.gr/EIE/handle/10442/13231>

24. **Cosmology Workshop**, Montpellier

France, Nov. 3-4 2011. Invited by Prof. D. Polarski. Talk presented on 'Is there a fundamental cosmic dipole?'

<http://www.coulomb.univ-montp2.fr/perso/david.polarski/workshop/>

23. **Cosmology Workshop**, Montpellier

France, Nov. 3-4 2011. Invited by Prof. D. Polarski. Talk presented on 'Generalizing LCDM with Inhomogeneous Dark Energy'.

22. **Workshop "Inhomogeneous Cosmologies"** Jyväskylä

(Finland) in August 15-19, 2011. Invited by Prof.

Kimmo Kainulainen. Talk presented on 'Generalizing LCDM with Inhomogeneous Dark Energy'.

21. **Balkan School and Workshop –BSW-2011 “PARTICLE PHYSICS FROM TeV TO PLANK SCALE”**. Invited by Prof.

Dragoljub Dimitrijevic

27-31 August, 2011, at the bank of Danube river in the National park Djerdap, Serbia. Talk presented on: 'Topological Quintessence'

20. **New Directions in Modern Cosmology, (Leiden, Holland), Sep. 27 - Oct. 1, (2010)**

<http://www.lorentzcenter.nl/lc/web/2010/412/info.php3?wsid=412>

Invited talk on: *ΛCDM: Triumphs, Puzzles and Remedies*

19. **Confronting Theory with Observations: A UniverseNet Cosmology Workshop, (Niels Bohr Copenhagen), August 16-20, (2010)**

<http://www.nbia.dk/cosmo/workshop.html>

Invited talk on: *ΛCDM: Triumphs, Puzzles and Remedies*

18. Invited talk at the Univ. of Athens (invited by Assoc. Prof. Nick Tetradis) 2/2/2010.

17. Invited talk at the **Cosmology Workshop**, Montpellier
France, Dec. 10-11 2009

<http://www.lpta.univ-montp2.fr/users/moraes/>

16. Invited talk at the **First Mediterranean Conference on Classical and Quantum Gravity**, Kolymbari (Crete, Greece), Sept. 14-18, 2009
<http://www.phy.olemiss.edu/mccqg/>
15. Invited TV interview at the scientific show 'Investigations' Greek public television (channel ET3) with subject 'Recent Developments in Gravity'. Profs Kokkotas and Stergioulas of the Univ. of Thessaloniki were also invited (June 26, 2009)
<http://www.youtube.com/watch?v=BFIXwPfwTeg&feature=related>
14. Invited talk at **Cosmology Workshop**, Montpellier France, Oct. 23-24 2008
http://www.lpta.univ-montp2.fr/users/moraes/English_version/Programme2.htm
13. Invited talk at **NEBXIII: Recent Developments in Gravity**, June 4-6 2008, Thessaloniki <http://www.astro.auth.gr/~neb-13/>
12. Invited talk (Plenary Talk) at the International Meeting **BILBAO ENCOUNTER ON NEW STANDARD COSMOLOGY** (Bilbao, Spain 2007) http://www.ehu.es/bicos/bicos_speakerw.html
11. Invited talk (Plenary Talk) at the International Meeting **Key Approaches to Dark Energy**, Aug. 7-15, 2006 - Barcelona, Spain,
<http://www.am.ub.es/~bcnde/meeting/index.html>
<http://www.am.ub.es/~bcnde/meeting/thursday10afternoon.htm>
10. Invited talk at the **Cosmology Workshop**, Montpellier France, Nov. 23-24 2006
<http://www.lpta.univ-montp2.fr/users/gannouji/index.html>
9. Invited talk at the Niels Bohr Institute (Copenhagen, Denmark) March 2006.
<http://www.nbi.ku.dk/page29215.htm?foredragid=3855&lang=en>
8. Invited talk at the Cosmology one day meeting at the Univ. of (Thessaloniki 2005). Talk published in the meeting proceedings
<http://www.astro.auth.gr/Cosmology05/>
7. Invited talk at the 7th Hellenic Astronomical Conference Kefalonia, 8-11 September 2005.
 (Talk published at the meeting proceedings)
<http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=APCPCS000848000001000698000001&idtype=cvips&gifs=yes>
6. Invited talk at the cosmology meeting DPU Workshop - NCSR Demokritos. (Athens, Greece, June 25-26, 2004).
<http://apcauger.in2p3.fr/Public/Biblio/Author/PERIVOLAROPOULOS-L.html>
 (Talk published at the meeting proceedings-Top25 hottest articles
http://top25.sciencedirect.com/index.php?cat_id=5&subject_area_id=21&journal_id=09205632)
5. Invited talk at the 3rd international Aegean Summer School (Chios 2005)
http://www.physics.ntua.gr/cosmo05/sci_prog.html
 (Talk published at the school proceedings)

4. Invited talk at the 1^o Hellenic Cosmology Meeting (NOA 1998)
<http://www.astro.noa.gr/~mplionis/Hmerida.htm>

3. Invited talks at the **Trieste Summer School for High energy Physics and Cosmology** (Trieste 1994)

<http://bookshop.blackwell.co.uk/jsp/id/9789810222918/Proceedings>

(Talk published at the school proceedings)

2. Invited talks at the international summer schools of cosmology and particle physics (Heraklion Crete 2005)

<http://hep.physics.uoc.gr/ISHEPAC/05/program.html>

1. Invited Talk at the international conference Unified Symmetry (Coral Gables Florida USA 1995)

<http://www.amazings.com/sbb/reviews/review0014.html>

(Talk published at the meeting proceedings)

Journals

Refereeing:

<u>Journal Title</u>	<u>Year of First Report</u>	<u>Approx. No. of Refereed Papers</u>
Physical Review Letters	1992	23
Physical Review D	1991	120
Nuclear Physics B	1992	8
Amer. Journal of Physics	1990	2
Astrophysical Journal	1993	6
Classical and Quantum Gravity	1991	10
JCAP	2002	15

Conferences:

(1) **Theoretical Advanced Study Institute 1988**

Brown University, Providence, Rhode Island, June 1988

(talk presented on 'Catalysis of Proton Decay by Superconducting Cosmic Strings')

(2) **Yale Cosmic String Workshop**

Yale University, New Haven, Connecticut, April 1988.

(3) **1988 Cosmology and Microphysics Workshop**

University of California at Santa Barbara (I.T.P.), October to December 1988 (talk presented on 'Catalysis of Proton Decay by Superconducting Cosmic Strings')

(4) **1989 American Physical Society Spring Meeting**

Baltimore, April 1989. (talk presented on 'Large Scale Structure by Cosmic Strings', abstract published in the conference proceedings)

(5) **GR-12 Conference on General Relativity**

Boulder, Colorado, July 1989
(talk presented on 'Large Scale Structure by Cosmic Strings',
abstract published in the conference proceedings)

(6) Galaxy Formation Workshop

Taos New Mexico, January 1990.
(talk presented on 'Large Scale Structure by Cosmic Strings')

(7) Pascos '90: Particles, Strings and Cosmology

Northeastern University, Boston, Massachusetts, March 1990.

**(8) Workshops on 'Quantum Cosmology' and
'Inflation and Exotic Cosmic Structure Formation'**

University of British Columbia, Vancouver, Canada, May 1990.

**(9) Workshop on 'Impact of Pulsar Timing on Relativity and
Cosmology'** Center for Particle Astrophysics, University of California,
Berkeley, June 1990.

(10) Summer School on 'Vacuum Structure in Intense Fields'
Cargese, France, August 1990.

(11) Conference on 'Dark Matter in the Universe'

University of Florida at Gainesville, February 1992
(talk presented on 'Large Scale Structure by Global Monopoles
and Cold Dark Matter')

(12) Conference on 'New Development in Gravity'

University of Crete, June 1992
(talk presented on 'Cosmic Strings: Cosmology and Microphysics')

(13) Paris-Utrecht-Rome Triangular Meeting

University of Crete, July 1992
(talk presented on 'Embedded Defects: Semilocal and Electroweak
Strings')

(14) Second Conference on Astrofundamental Physics (D'Chalonge)
Erice, September 1992.

(15) First Greek Astronomical Meeting

Athens, September 1992.
(**Invited talk** presented on 'Cosmic Strings and Large Scale Structure'
and published in the conference proceedings).

(16) Texas/Pascos Conference, Berkeley, California, December 1992.

(17) **Microwave Background Workshop**
Berkeley, California, December 1992.
(talk presented on 'COBE vs Cosmic Strings: An Analytical Model')

(18) **Capri Cosmic Microwave Background Workshop**
Capri (Italy), September 1993.
(talk presented on 'Signatures of Cosmic Strings on the Cosmic Microwave Background' and published in conference proceedings.)

(19) Global Foundation Conference **on Unified Symmetry in the Small and in the Large**. Miami (Florida), January 27-30, 1994.
(**Invited Talk** presented on 'Power Spectrum of Microwave Background Perturbations Induced by Cosmic Strings', published in conference proceedings.)
<http://www.amazings.com/sbb/reviews/review0014.html>

(20) **NATO Advanced Research Workshop:**
'Electroweak Physics and the Early Universe'
Sintra (Portugal), March 1994.
(talk presented on 'Existence and Stability of Embedded Spinning Vortices' and published in conference proceedings.)

(21) **Trieste International Summer School:**
Trieste (Italy), June 1994.
(**Invited lecturer.** Presented four lectures of 1:15' each with subject: 'Cosmic String Theory: The Current Status')
<http://bookshop.blackwell.co.uk/jsp/id/9789810222918/Proceedings>

(22) **Particle Physics and the Early Universe Conference**, University of Cambridge, 7-11 April 1997,
IN CELEBRATION OF THE CENTENARY OF THE DISCOVERY OF THE ELECTRON. (talk presented with title 'A new statistic for the detection of long strings on CMB maps', published electronically at the conference proceedings at the address:
<http://www.mrao.cam.ac.uk/ppeuc/astrophysics/papers/perivolaropoulos/perivolaropoulos.html>
!)

(23) '**Topological Defects in Cosmology and Condensed Matter Systems**',
Saint Hughes de Biviers, Grenoble, France,
September 26 - October 2 1997. Talk presented on 'Formation of Vortices in First Order Phase Transitions'

(24) Workshop on **Recent Developments in High Energy Physics**,
Research Centre "Democritos", 9-11 April 1998, **Invited Talk** presented on 'Cosmic Strings in the COBE data?'

(25) **First Cosmology Meeting**, National Observatory of Athens, 9 April

1998. **Invited talk** presented on 'Cosmic Strings in the COBE data?'

(26) **London Mathematical Society Durham Symposium**, July 21 - July 27 1998, Talk Presented on 'Electroweak Vortex and Core Structure of Embedded Topological Defects'.

(27) **8th Conference on New Developments in Gravity**, Department of Mathematics, University of Aegean, Karlovasi, Samos, August 26 -29, 1998. Talk presented on 'Gravitational Signatures of Cosmic strings in the COBE Data.'

(28) **XXI Triangular Meeting** 'Gauge Theories in elementary Particle Physics and Gravity', Orthodox Academy of Crete Kolympari , Crete September 9th - 12th , 1998. Talk presented on 'Electroweak Vortex and Core Structure of Embedded Topological Defects'.

(29) **Astronomy 2000+**: Greek prospects for the 21st century. Athens, November 12 & 13, 1998. Talk presented on: 'Developing Cosmology in Greece.'

(30) **ESF Network Workshop and Winter School: Les Houches: Topological Defects and the Nonequilibrium Dynamics of Symmetry Breaking Phase Transitions**, Les Houches, France, 16-26 Feb 1999. Talk presented on: 'Superconducting Semilocal Stringy Textures'.

(31) **Conference on 'Continued Education – Training at the dawn of the 21st century'**, Heraklion, Crete April 25, 1999. **Invited talk** on 'New Technologies in the Education of Physical Sciences'.

(32) Conference **Co Chairman - Editor** of Conference Proceedings. **INSPIRE IV: Training and Teaching for the understanding of Software Quality**. (conference on New Technologies in Education, Heraklion 1999) Published in 1999 by the British Computer Society.

(33) **Current Developments in High Energy Physics**
The Annual Workshop of the Hellenic Society for the Study of High Energy Physics, 20-23 April 2000, Ioannina, Greece.

(34) **N E B IX Νεώτερες Εξελίξεις στη Βαρύτητα**
9ο ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ ΣΧΕΤΙΚΟΤΗΤΑΣ
ΠΑΝΕΠΙΣΤΗΜΙΟ ΙΩΑΝΝΙΝΩΝ, 28-31 ΑΥΓΟΥΣΤΟΥ 2000.
<http://theory.physics.uoi.gr/~nbatakis/nebix.html>

Talk presented on 'Scale Dependence of Cosmological Constant Antigravity'.

(35) **ESF Network Workshop Capri, Naples, Italy, September 7-12, 2000.**
Topological Defects and the Nonequilibrium Dynamics of Symmetry

Breaking Phase Transitions

Talk presented on: 'Dynamics of Q Balls'.

(36) **ESF COSLAB Network July 7-10, 2001 Imperial College, London, U.K.** Talk presented on: 'Q Rings'.

(37) **NEB X Recent Developments in Gravity**

10o Panhellenic Relativity Conference

Thessaloniki Greece, May 30 – June 2 2002.

http://www.astro.auth.gr/gravity/NEB_X.html

Talk presented on 'Cosmological Effects of Radion Oscillations'.

(38) **Recent Development in High Energy Physics. Annual Meeting of the Hellenic Society for the Study of High Energy Physics.** April 25-27, 2002. Univ. of Patras.

Talk presented on 'Cosmological Effects of Radion Oscillations'.

(39) **Recent Development in High Energy Physics. Annual Meeting of the Hellenic Society for the Study of High Energy Physics.** April 17-20, 2003 EKEFE Democritos, Athens Greece.

<http://www.inp.demokritos.gr/eesfye/>

Talk presented on 'Cosmological Expansion from Vibrating Extra Dimensions'.

(40) **Recent Development in High Energy Physics. Annual Meeting of the Hellenic Society for the Study of High Energy Physics.** April 1-4, 2004 Chios.

<http://hep2004.chios.aegean.gr/>

Talk presented on 'Dark energy Evolution: From antigravity to Hypergravity?'.

(41) **7th Astronomy Conference of the Hellenic Astronomical Society**, Sept. 8-11 2005, Lixouri, Kefalonia, Greece.

Invited Review Talk presented on '*Accelerating Universe: Observational Status*

and Theoretical Implications' (published in conference proceedings)

(42) **2nd Aegean Summer School on the Early Universe.** Sept. 22-30 2003 Ermoupolis, Syros Island, Greece

Talk presented on 'Cosmological Expansion from Vibrating Extra Dimension'.

(43) **3rd Aegean Summer School on the Early Universe.** Sept. 26-Oct 1 2005 Karfas, Chios island, Greece

Invited Review presented on 'Constraining the Cosmological Parameters from Supernovae Observations'.

(44) **International Workshop on Cosmology and Gravitational Physics** Dec. 15-16 2005 Thessaloniki Greece.

<http://www.astro.auth.gr/Cosmology05/>

Invited Review presented on '*Accelerating Universe: Observational Status*

and Theoretical Implications'

(45) **Cosmology Workshop**, Montpellier France, Nov. 23-24 2006

<http://www.lpta.univ-montp2.fr/users/gannouji/index.html>

Invited talk presented on ` *Crossing the Phantom Divide: Observational Status and Theoretical Implications* '

(46) **Key Approaches to Dark Energy**, Aug. 7-15, 2006 - Barcelona, Spain,

<http://www.am.ub.es/~bcnde/meeting/index.html>

<http://www.am.ub.es/~bcnde/meeting/thursday10afternoon.htm>

Invited talk presented on ` *Crossing the Phantom Divide: Observational Status and Theoretical Implications* '

(47) **Bilbao Encounter of New Standard Cosmology**, Bilbao Spain, Apr. 10-12 2007,

http://www.ehu.es/bicos/bicos_speakerw.html

Invited Review presented on ` *Accelerating Universe: Recent Observations and Implications for Extended Gravity Theories* ' .

(48) **HEP2008: XXVI Workshop on Recent Developments in**

High Energy Physics and Cosmology, Ολυμπία 16-19 Απριλίου 2008

Talk presented on 'Cosmological Constant: Tests in the Cosmos and in the Lab'

(49) **NEBXIII: Recent Developments in Gravity**, June 4-6 2008, Thessaloniki

<http://www.astro.auth.gr/~neb-13/>

Keynote Speaker Review Talk:

Accelerating Universe: Recent Observations and Implications for Extended Gravity Theories

(50) **UniverseNet: The second network school and meeting**, Oxford, UK
22-26 September 2008.

<http://www.physics.ox.ac.uk/univnet/meeting2008/home.htm>

(51) **Cosmology Workshop Montpellier (France) 2008**, October 23-24

<http://www.lpta.univ-montp2.fr/users/moraes/index.html>

Invited talk on: 'A Comparison of Dark Energy Probes'

(52) **HEP2009: XXVII Workshop on Recent Developments in**

High Energy Physics and Cosmology, ΕΚΕΦΕ Δημόκριτος 21-23 Μαΐου 2009

Talk presented on 'How to make Solitons from Particles'

<http://indico.cern.ch/conferenceDisplay.py?confId=55216>

(53) **Cosmo International Conference on Particle Physics and Cosmology**

(**Cosmo09**) CERN 2009, September 7-11

<http://indico.cern.ch/conferenceDisplay.py?confId=46758>

(54) **First Mediterranean Conference on Classical and Quantum Gravity**,

Kolymbari (Crete, Greece), Sept. 14-18, 2009

<http://www.phy.olemiss.edu/mccqg/>

Invited talk presented on: 'Recent Developments of Dark Energy Probes'

(55) **Cosmology Workshop Montpellier (France) 2009**, December 10-11

<http://www.lpta.univ-montp2.fr/users/moraes/>

Invited talk on: ‘Beyond the SubHubble Approximation for the General Relativistic Growth of Perturbations: Scale and Gauge Dependence of $\delta(z)$ ’

(56) **Cosmology Workshop (Athens) Feb. 2 (2010)**

(organized by N. Tetradis)

Invited talk on: Accelerating Universe: Geometric observational constraints and evolution of perturbations.

(57) **NEB14: Recent Developments in Gravity (Ioannina) June 8-11 (2010)**

(organized by L. Perivolaropoulos and P. Kanti)

<http://neb14.physics.uoi.gr/>

(58) **Confronting Theory with Observations: A UniverseNet Cosmology Workshop, (Niels Bohr Copenhagen), August 16-20, (2010)**

<http://www.nbia.dk/cosmo/workshop.html>

Invited talk on: Λ CDM: Triumphs, Puzzles and Remedies

(59) **4th UniverseNet School: Frontiers on Particle Cosmology, (Lecce, Italy), September 13-18, (2010),**

<http://agenda.infn.it/conferenceDisplay.py?confId=2529>

Talk presented on: Growth of Dark Energy perturbations in scalar-tensor cosmologies.

(60) **New Directions in Modern Cosmology, (Leiden, Holland), Sep. 27 - Oct. 1,**

<http://www.lorentzcenter.nl/lc/web/2010/412/info.php3?wsid=412>

Invited talk on: Λ CDM: Triumphs, Puzzles and Remedies

(61) **Workshop on Recent Advances in Particle Physics and Cosmology, Univ. of Patras, Apr. 14 – Apr. 16 2011,**

<http://www.hep2011.gr/p/programme.html>

Talk presented on: *Generalized LTB model with Inhomogeneous Isotropic Dark Energy: Observational Constraints*

(61) **. Balkan School and Workshop –BSW-2011 “PARTICLE PHYSICS FROM TeV TO PLANK SCALE”.** Invited by Prof.

Dragoljub Dimitrijevic

27-31 August, 2011, at the bank of Danube river in the National park Djerdap, Serbia. Talk presented on: ‘Topological Quintessence’

(62) **Workshop "Inhomogeneous Cosmologies"** Jyväskylä

(Finland) in August 15-19, 2011. Invited by Prof.

Kimmo Kainulainen. Talk presented on ‘Generalizing LCDM with Inhomogeneous Dark Energy’.

(63) **Cosmology Workshop, Montpellier**

France, Nov. 3-4 2011. Invited by Prof. D. Polarski. Talk presented on ‘Generalizing LCDM with Inhomogeneous Dark Energy’.

(64) **Cosmology Workshop, Montpellier**

France, Nov. 3-4 2011. Invited by Prof. D. Polarski. Talk presented on

'Is there a fundamental cosmic dipole?'

<http://www.coulomb.univ-montp2.fr/perso/david.polarski/workshop/>