

## INFORMAȚII PERSONALE

## MARINA-AURA DARIESCU



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Sexul: F | Data nașterii: 23/06/1962 | Naționalitatea: Romana

## EXPERIENȚĂ PROFESIONALĂ

## Locul de muncă actual / funcția

Universitatea Alexandru Ioan Cuza din Iasi/ Profesor universitar  
Conducator de Doctorat, specializarea Fizica teoretica

## Pozitii didactice in invatamant/ Institutia si perioada

- Profesor de fizică/ Liceele V. Alecsandri Bacau si D. Cantemir Iasi/ 1985-1989;
- Asistent suplinitor, Universitatea Tehnica Ghe. Asachi, Iasi/ 1989-1990;
- Asistent universitar/ Universitatea Alexandru Ioan Cuza din Iași/1990-1993;
- Lector universitar/ Universitatea Alexandru Ioan Cuza din Iași /1993--1997;
- Conferențiar universitar/ Universitatea Alexandru Ioan Cuza din Iași /1997-2000,
- Profesor universitar/ Universitatea Alexandru Ioan Cuza din Iași/2000-pana in prezent.
- Conducator de Doctorat, Universitatea Alexandru Ioan Cuza din Iași/ din 2009-pana in prezent.

## EDUCAȚIE ȘI FORMARE

1969-1973: Scoala primara,  
1973-1977:Gmnaziu, Liceul M. Eminescu, Iasi,  
1977-1981: Liceul M. Eminescu si Liceul C. Negruzzi, Iasi,  
1981-1985: Facultatea de Fizica, Universitatea Alexandru Ioan Cuza din Iași

## STUDII POSTUNIVERSITARE:

Doctorat in Fizica, specializarea Fizica Teoretica, Universitatea *Alexandru Ioan Cuza*, Iasi, Martie 1994  
Tema Tezei: *Teorii Gauge in Fizica Particulelor Elementare*  
Coordonator: Prof. univ. dr. Gheorghe Zet

Cursul postuniversitar de 2 luni, la Centrul pentru Instruire in Informatica, Iași, in cadrul "Programului de Acreditare a operatorilor pe calculatoare personale" (1993);

**Stagiu de cercetare**, ca visiting researcher, 10 luni la Universitatea din Toyama, Japonia (1995-1996);

**FULBRIGHT FELLOWSHIP**, University of Oregon, USA (Sept. 2002-May 2003);

**Diploma on Cosmology**, *First Aegean Summer School on Cosmology* Karlovassi, **Greece**, Sept. 2001 si la *4th Aegean Summer School: Black Holes*, Mytilene, **Greece**, sept. 2007;

## COMPETENTE PERSONALE

Limba(i) maternă(e) Romana

Alte limbi străine cunoscute

	INTELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversație	Discurs oral	
Engleza	F. Bine	F. Bine	F. Bine	F. Bine	F. Bine
Franceza	Bine	Bine	Bine	Bine	Bine

Niveluri: A1/2: Utilizator elementar - B1/2: Utilizator independent - C1/2: Utilizator experimentat  
 Cadrul european comun de referință pentru limbi străine

Competențe de comunicare

- Foarte bune competențe de comunicare dobândite ca profesor de fizica în învățământul liceal și universitar,
- organizator de manifestări științifice,
- director de grant de cercetare,
- stagii de Visiting Researcher în universități din străinătate .

Competențe organizaționale/manageriale

**In the Organizer Committee si Scientific Committee la Conferințe internaționale si naționale (selectie)**

First Tah Poe School on Cosmology, Tailanda, aprilie, 2002.  
*International Conference on Relativity, ICR-2005*, Amravati University, Amravati, India, ianuarie, 2005.  
 Conferința națională de Fizică Teoretică, Universitatea Alexandru Ioan Cuza, Iași, Iunie 2010.

Competențe dobândite la locul de muncă

30 de ani de experiență în predare și cercetare.

Competențe informatice

O bună cunoaștere a softurilor utilizate în activitatea de cercetare (Mathematica, Maple etc).  
 Absolvent al Cursului postuniversitar, Centrul pentru Instruire în Informatică, Iași, în cadrul "Programului de Acreditare a operatorilor pe calculatoare personale (1993);

Permis de conducere

Categoria B

## INFORMATII SUPLIMENTARE

Premiul **Constantin Miculescu**, acordat de *Academia Romana*, pentru lucrarile publicate in 2011 (in colaborare cu Ciprian Dariescu), asupra *Teoriei campului gravitacional in modele cu extra-dimensiuni si Moduri cuantice exacte in campuri extreme*, Decembrie 2013.

**Bursa FULBRIGHT** la Institut of Theoretical Science, Univ. of Oregon, Eugene, USA, Septembrie 2002-mai 2003.

**Domenii de competenta:**

**Teorii gauge in fizica particulelor elementare**  
**Gravitație și cosmologie**  
**Efecte speciale în teorii moderne de cuantificare**

**ACTIVITATE DIDACTICA UNIVERSITARA:**

Ore de laborator si/sau seminar la disciplinele:

Mecanica analitica si a mediilor deformabile (Fizica II), Electrodinamica si teoria relativitatii (Fizica II si III), Mecanica cuantica (Fizica III), Metode matematice ale fizicii teoretice (Fizica III), Metoda integralei functionale (Fizica III), Teoria particulelor elementare (Fizica V), Neliniaritati in solide (Fizica VI), Statistica cuantica (Fizica Tehnologica III), Fizica teoretica (Matematica V), Fizica teoretica (Chimie-Fizica IV) si Fizica generala (studenti straini).

Ore de curs la disciplinele:

Limbaje de programare (F), Statistica cuantica (FT), Fizica teoretica (Matematica), Fizica teoretica (Chimie-Fizica), Metoda integralei functionale (F, curs facultativ), Cromodinamica Cuantica (F, curs optional), Capitole Speciale de Fizica Teoretica (FT), Capitole Speciale de Fizica Cuantica (FM, BF) Mecanica Cuantica (F, FT, FI, BF, FM), Termofinamica si fizica statistica (F, FT); Astrofizica si Cosmologie (F, curs optioal);

**Cursuri la Master:**

Fizica energiilor inalte si elemente de astrofizica (Master: Fizica Teoretica)  
 Metode matematice ale fizicii teoretice (Master: Fizica Teoretica)  
 Teorii care au influentat gandirea in fizica fundamentala si aplicata (Master Didactica Fizicii)  
 Statistica starilor de neechilibru (Master II, sem. II, doar in anul univ. 2005-2006)  
 Teorii cuantice ale starii condensate (Master: Materiale avansate. Nanotehnologii si Modelare si simulare);

Cursuri la **Scoala Doctorala**: Teorii cuantice de camp, Fizica teoretica

**Participari la manifestari stiintifice internationale:**

- 1) Seminar of Cosmology, Bad Honnef, Germania, octombrie 1990;
- 2) Summer School in High Energy Physics and Cosmology, Trieste, Italia, iunie-iulie 1991;
- 3) Visiting la Institutul de Fizica Teoretica al Univ. din Zurich, Elvetia septembrie 1991;
- 4) V-th Regional Conference on Mathematical Physics, Edirne, Turcia, decembrie 1991;
- 5) International Conference on Differential Geometry and Its Applications. 90-th Anniversary of Akitsugu Kawaguchi's Birth Tensor Society (Japonia) impreuna cu Academia Romana, Bucuresti, august 1992;
- 6) Visiting la Institutul de Fizica Teoretica al Universitatii din Dortmund, Germania, septembrie 1992;
- 7) Summer School in High Energy Physics and Cosmology, Trieste, Italia, iulie 1993;
- 8) Colloquim on Differential Geometry, Debrecen, Ungaria, iulie 1994;
- 9) Visiting la Institutul de Cosmologie al Universitatii Egee, Izmir, Turcia, august 1994;
- 10) Workshop on Global Analysis, Differential Geometry and Lie Algebras, Thessaloniki, Grecia, decembrie 1994;
- 11) Hokuriku Domain Particle Physics Group Meeting, Myoko, Japonia, mai 1995;
- 12) Yukawa International Seminar 1995 "From the Standard Model to Grand Unified Theories", Kyoto, Japonia, august 1995;
- 13) Finsler Symposium, Nagasaki, Japonia, noiembrie 1995.
- 14) Visiting la Institutul de Fizica Teoretica al Univ. din Toyama, Japonia, mai 1995 - 1 martie 1996
- 15) The Eight Marcel Grossmann Meeting, Jerusalem, Israel, iunie 1997.
- 16) Visiting la Institutul de Fizica Teoretica al Universitatii din Jena, Germania, noiembrie 1997.
- 17) Visiting la Institutul de Cosmologie al Universitatii Egee, Izmir, Turcia, sept. 2001.
- 18) First Aegean Summer School on Cosmology, Karlovassi, Grecia, septembrie, 2001.
- 19) First Tah Poe School on Cosmology, Pitsanulok, Tailanda, aprilie, 2002.
- 20) International Conference on Theoretical Physics, Paris, France, iulie, 2002.
- 21) The VI-th Friedmann International Seminar on Gravitation and Cosmology, Cargese, Corsica, iulie, 2004.

- 22) International Conference on Relativity, ICR2005, Amravati University, India, ianuarie 2005.
- 23) Third International Workshop on Pseudo-Hermitian Hamiltonians in Quantum Physics, Koc University, Istanbul, Turkey, iunie 2005.
- 24) Third International Conference of Young Scientists, Chisinau, Moldova, noiembrie 2005.
- 25) International Symposium "Mathematical Methods in Engineering", MME06, Cankaya University, Ankara, Turkey, aprilie 2006.
- 26) Visiting la Physics Department, La Plata National University, Argentina, 18 iulie- 12 august 2006.
- 27) Visiting la IAFE Institute of Space Sciences, Buenos Aires University, Argentina, 12 mai- 8 iulie 2007.
- 28) XXVI International Encuentro de la red strings, IAFE Institute of Space Sciences, Buenos Aires, Argentina, mai 2007.
- 29) International Conference on Hadron Physics, TROYA07, Middle East Technical University, Canakkale, Turkey, august-septembrie 2007.
- 30) 4th Aegean Summer School: Black Holes, Mytilene, Lesbos, Greece, sept. 2007;
- 31) 1st Annual School Of EU Network 'UniverseNet': The Origin Of The Universe: Seeking Links Between Fundamental Physics And Cosmology, Mytilene, Lesbos, Greece, sept. 2007.
- 32) International Conference "FUNDAMENTAL AND APPLIED RESEARCH IN PHYSICS" FARPhys – 2007, Al. I. Cuza University, Iași, octombrie 2007.
- 33) Seventh Friedmann International Seminar on Gravitation and Cosmology, Joao Pessoa, Brazil, Iunie-iulie 2008.
- 34) Visiting la Federal University of Paraiba, Brazil, 9 iunie- 9 august 2008.
- 35) The 5-th Australasian Conference on General relativity and Gravitation, University of Canterbury, Christchurch, New Zealand, 15-18 Dec. 2009.
- 36) Visiting la University of Canterbury, Christchurch, New Zealand, 11 dec. 2009-10 ian. 2010.
- 37) Visiting la Federal University of Paraiba, Brazil, 6 iulie- 9 sept. august 2010.
- 38) Visiting la University of Helsinki, Finland, 5-20 dec. 2010 (in cadrul programului POSDRU).
- 39) Visiting la Space Research Center (CINESPA), University of Costa Rica, San Jose, July 21-August 21, 2011.
- 40) Visiting la University of Canterbury, Christchurch, New Zealand, 9 iulie-2 sept. 2012.
- 41) 9th International Conference on Physics of Advanced Materials ICPAM-9, *Alexandru Ioan Cuza* University of Iasi, Romania, 20-23 September 2012.
- 42) Visiting la Federal University of Paraiba, Brazil, 10 iulie- 5 sept. 2013.
- 43) Visiting la Federal University of Paraiba, Brazil, 7 iulie- 8 sept. 2014.
- 44) Visiting si participare la *6th Bangkok Workshop on High-Energy Theory* (<http://www.thaihep.phys.sc.chula.ac.th/BKK2017HEPTh/>) Physics Department of Chulalongkorn University, Bangkok, **Thailand**, January 7-20, 2017.
- 45) Visiting la University of Canterbury, Christchurch, New Zealand, 30 Octombrie – 26 Noiembrie 2017.
- 46) International Scientific Conference Mathematical Modelling. Processes and systems. MATHMODEL 2017, Borovets, Bulgaria, 13-16 Dec. 2017.

Am mai participat cu lucrari la:

GR14 International Conference on General Relativity and Gravitation, Florence, Italia, august 1995;

Un numar de 4 ore de curs, ca **Invited Lecturer** la First Tah Poe School on Cosmology, Pithanulok, Tailanda, aprilie 2002.

**Prelegeri cu statut de Invited Plenary Report la:**

*The VI-th Friedmann International Seminar on Gravitation and Cosmology*, Cargese, France, iulie 2004.

*International Conference on Relativity, ICR-2005*, Amravati, India, ianuarie 2005.

*International Symposium Mathematical Methods in Engineering*, MME06, Cankaya University, Ankara, Aprilie 2006.

*The VII-th Friedmann International Seminar on Gravitation and Cosmology*, Joao Pessoa, Brazil, iunie-iulie 2008.

*The 5TH AUSTRALASIAN CONFERENCE ON GENERAL RELATIVITY AND GRAVITATION*, University of Canterbury, Christchurch, New Zealand, Dec. 2009.

Prezentare orala la *6th Bangkok Workshop on High-Energy Theory*

Physics Department of Chulalongkorn University, Bangkok, Thailand, Ianuarie 2017.

**Seminarii sustinute la Universitati din strainatate (selectie):**

**Pe teme de fizica energiilor inalte si gravitatie:**

Institute of Theoretical Physics, Friedrich-Schiller Univ., Jena, Germany

Institute of Theoretical Physics, Dortmund University, Germany,

Institute of Information Sciences and Electronics, Tsukuba Univ., Japan,

High Energy Physics Dept., Univ. of Hawaii, Honolulu, USA,

La Plata National University, Argentina,

Buenos Aires University si IAFE, Argentina,

UFPB, Brazilia.

**Convenție de colaborare bilaterală** cu *Canakkale Onsekiz Mart University*, programul ERASMUS.  
**Convenție de colaborare bilaterală** cu *Helsinki University*, programul ERASMUS.

International Scientific Contract with the Institute of Theoretical Physics,  
*Friedrich-Schiller University, Jena, Germany*, on **Exakte Lösungen für Axialsymmetrisch Stationäre Felder im Rahmen der Allgemeinen Relativitätstheorie und der Riemann-Cartan Theorie**, November 1991 - November 1996.

**Membru** al Societăților Stiintifice:

Tensor Society (Japan)  
European Physical Society  
Romanian Physical Society  
Romanian Society on General Relativity and Gravitation

#### Referent la revistele

Foundations of Physics  
Foundations of Physics Letters  
Central European Journal of Physics  
Physics Letters A (Elsevier, Holland)  
Modern Physics Letter A  
European Physical Journal C  
Romanian Journal of Physics  
Romanian Physical Reports  
Annals of Physics (Al. I. Cuza University, Iași, Romania)  
JARP (Al. I. Cuza University, Iași, Romania)

**Recenzent** la revistele: American Mathematical Review, Zentralblatt

#### Carti publicate:

1. FUNDAMENTAREA MECANICII CUANTICE,  
Ioan Gottlieb, Ciprian Dariescu, Marina-Aura Dariescu  
Editura "TEHNICA", Chișinău (1997) 568 pagini, ISBN 5-7790-01-55-3
2. GRAVITAȚIE ȘI CÂMPURI ÎN UNIVERSUL EINSTEIN  
Ciprian Dariescu, Marina-Aura Dariescu  
Editura "VESPER", Iași (1997) 201 pagini, ISBN 973-96589-6-2
3. CÂMPURI CUANTICE LIBERE  
Ciprian Dariescu, Marina-Aura Dariescu, Ioan Gottlieb  
Editura "BIT", Iași (1998) 582 pagini, ISBN 973-9327-29-x
4. MECANICĂ CUANTICĂ  
Ioan Gottlieb, Marina-Aura Dariescu, Ciprian Dariescu  
Editura "BIT", Iași (1999) 310 pagini, ISBN 973-9327-33-8.
5. CAPITOLE DE BAZĂ ÎN MECANICA CUANTICĂ. MICROPARTICULE ȘI CÂMPURI  
Ciprian Dariescu, Marina-Aura Dariescu, Ioan Gottlieb  
Editura "Venus", Iași (2007) 400 pagini, ISBN 978-973-756-061-2
6. MODELE SPECIALE DE UNIVERS ȘI PATOLOGII SPAȚIO-TEMPORALE  
Iordana Aștefănoaei, Ciprian Dariescu, Marina-Aura Dariescu  
Editura Univ. Al. I. Cuza, Iași (2007) 230 pagini, ISBN 973-703-205-5 (978-973-703-205-8).
7. TOPICI DE ASTRONOMIE, ASTROFIZICĂ ȘI COSMOLOGIE PENTRU ÎNCEPĂTORI,  
Marina-Aura Dariescu, Ciprian Dariescu, Lucian-Mihai Cosovanu, Cristian-Ionut Stelea  
Editura Ars Longa, Iași (2015) 200 pagini, ISBN 978-973-148-200-2.

#### Capitole in carti:

##### Internationale

- On the Quantization of the Complex Scalar Fields in  $S^3 \times R$  Space-Time  
C Dariescu and M. A. Dariescu  
*In Lagrange and Finsler Geometry: Applications to Physics and Biology*, Springer, 1996, edited by P.L. Antonelli, R. Miron,  
ISBN 978-90-481-4656-7, ISBN 978-94-015-8650-4 (eBook) DOI 10.1007/978-94-015-86.50-4, pgs. 233-240.
- Gauge covariant particle physics in curved spacetime

30 pagini, *Proceedings of First Tah Poe School on Cosmology*, Naresuan Univ, Pithanulok, Thailand, 2002.

#### Nationale

- Gravitatia. O noua teorie a spatiu-timpului  
M. Agop (Editor), Editura Graphics, Iasi, Romania, 1992.
- Gravity, Theoretical Physics and Computers  
D. Vulcanov and I. Cotaescu (Editori), Editura Mirton, Timisoara, Romania, 1997.
- New theoretical results in gravity and general relativity  
D. Vulcanov and I. Cotaescu (Editori), Editura Mirton, Timisoara, Romania, 1998.

#### Proiecte de cercetare-dezvoltare-inovare pe baza de contract-grant

- 1) Studiul campului gravitacional utilizand Formalismul Tetric Null-Complex fara Torsiune  
Contract 90/1989 (Faza 2.1, 1989) cu Inst. de Gravitatie si Stiinte Spatiale, Bucuresti;
- 2) Studiul campului gravitacional utilizand Formalismul Tetric Null-Complex cu Torsiune  
Contract 90/1989 (Faza 2.2, 1990) cu Inst. de Gravitatie si Stiinte Spatiale, Bucuresti;
- 3) Teorii ale gravitatiei pe spatii cu topologie  $S^3 \times R$   
Contract 4/1991 (Faza 1.2, 1991) cu Inst. de Gravitatie si Stiinte Spatiale, Bucuresti;
- 4) Teorii extinse ale gravitatiei pe spatii Riemann-Cartan  
Contract 4/1991 (Faza 2.2, 1992) cu Inst. de Gravitatie si Stiinte Spatiale, Bucuresti;
- 5) Teorii gauge cu aplicatii in astrofizica si cosmologie  
Contract 15/1994 cu Ministerul Cercetarii si Tehnologiei, Bucuresti;
- 6) Metode de cuantificare neperturbativa a Universului Robertson-Walker spatial plat cu constanta cosmologica pozitiva, in imagine Heisenberg, cu aplicatii la sectorul stationar al Universului de Sitter  
Contract 42/1996 cu Inst. de Gravitatie si Stiinte Spatiale, Bucuresti;
- 7) Contributii la studiul modelelor spatio-temporale cu simetrii speciale, cu aplicatii la surse scalare si interactiuni gauge pe structuri patologice globale  
Contract 43/1996 cu Ministerul Cercetarii si Tehnologiei, Bucuresti
- 8) Studiul teoretic si aplicativ al fenomenelor neliniare  
Grant international (Banca Mondiala si Guvernul Romaniei). Tip grant: 1, Tip proiect: 5D, Cod CNCSU: 39/1998.
- 9) Simulator cuantic pentru dispozitive semiconductoare nanometrice,  
Proiect CEEEX – QUANET (2005-2008).
- 10) Campuri cuantice si solutii exacte ale ecuatiilor Einstein cu aplicatii in astrofizica si cosmologie.  
Grant tip A, COD CNCSIS 1160/2006-2008.
- 11) Dinamica unitara a campurilor cuantice si de meso-scala (Director Grant).  
Grant tip A, COD CNCSIS 1433/2007.
- 12) Platforma integrata pentru studii avansate in nanotehnologii moleculare (AMON),  
Proiect CNCSIS tip Platforme de cercetare (2006-2008).
- 13) Dezvoltarea de noi concepte, tehnici si abilitati bazate pe metode sinergice de evaluare neinvaziva a materialelor noi si avansate, a materialelor micro si nanostructurate, estimari de ciclu de viata a structurilor realizate de acestea (SINERMAT) Proiect CEEEX – SINERMAT (2005-2008).
- 14) Mathieu and Heun functions in quantum field dynamics (MHFQFD). (Director Grant)  
Grant PN-III-P4-ID-PCE-2016-0131 (2017-2019)

**163 lucrari stiintifice publicate in reviste si volume** (conform Anexei),  
Dintre care 74 sunt in reviste cotate ISI.

## ANEXE

### I. Articole publicate în reviste cotate ISI

1. **U(1) Gauge Theory for Charged Bosonic Fields on  $R \times S^3$  Topology**  
*C. Dariescu and M.A. Dariescu*  
Foundations of Physics, **21**, No. 11, p. 1323-1327 (1991).
2. **U(1) Gauge Theory of the Quantum Hall Effect**  
*C. Dariescu and M.A. Dariescu*  
Foundations of Physics, **21**, No. 11, p. 1329-1333 (1991).
3. **The  $SU(2) \times U(1)$  Gauge Theory of Bosonic and Fermionic Fields in  $S^3 \times R$  Space-Time**



- C. Dariescu and M.A. Dariescu*  
 Foundations of Physics, **24**, No. 11, p. 1577-1582 (1994).
4. **Gauge Theory of Fermions on  $S^3 \times R$  Spacetime**  
*M.A. Dariescu, C. Dariescu and I. Gottlieb*  
 Foundations of Physics, **25**, No. 6, p. 957-961 (1995).
  5. **Fermions in a Kerr-Newman Spacetime**  
*M.A. Dariescu, C. Dariescu and I. Gottlieb*  
 Foundations of Physics, **25**, No. 10, p. 1523-1528 (1995).
  6. **A Special Lagrange Metric in Particle Mechanics**  
*M. Agop, C. Dariescu, M.A. Dariescu and D. Tatomir*  
 Il Nuovo Cimento, **110B**, No. 4, p. 371-375 (1995).
  7. **Perturbative QCD Estimation of the  $B \rightarrow K^* + \gamma$  Branching Ratio**  
*M.A. Dariescu and C. Dariescu*  
 Physics Letters B, **367**, No. 1-4, p. 349-352 (1996).
  8. **Perturbative QCD analyses of the nonleptonic B meson decays**  
*C. Dariescu and M.A. Dariescu*  
 Physics Letters B, **378**, No. 1-4, p.323-328 (1996).
  9. **Quantizing de Sitter Spacetime in Heisenberg Picture**  
*C. Dariescu, S. Hamamoto and M.A. Dariescu*  
 Progress of Theoretical Physics, **95**, No.6, p. 1199-1210 (1996).
  10. **A Heavy-to-heavy Approach of  $B \rightarrow K^* \gamma$  via Perturbative QCD**  
*C. Dariescu and M.A. Dariescu*  
 Physics Letters B, **398**, No. 4, p. 361-364 (1997).
  11. **Non-Inertial First Order Transition Amplitude for  $1/2$  - Spin Fermions in Almost Uniformly Accelerated Frames**  
*C. Dariescu and M.A. Dariescu*  
 Il Nuovo Cimento, **113B**, No. 2, p. 207-212 (1998).
  12. **Zero Energy Modes of Massless Fermions in  $S^3 \times R$  Spacetime**  
*C. Dariescu and M.A. Dariescu*  
 Foundations of Physics, **28**, No. 8, p. 1393-1396 (1998).
  13. **Rotationally Symmetric Massless Modes in Closed Robertson-Walker Universe**  
*C. Dariescu and M.A. Dariescu*  
 Foundations of Physics Letters, **12**, No. 3, p. 267-279 (1999).
  14. **A Maxwell Field Equations Class of Exact Solutions on Matter Dominated Spatially Closed Friedman-Robertson-Walker Universe**  
*M.A. Dariescu and C. Dariescu.*  
 Foundations of Physics Letters, **12**, No. 4, p. 383-391 (1999).
  15. **Non-Leptonic B Meson Decays using Perturbative QCD**  
*M.A. Dariescu and C. Dariescu*  
 Australian Journal of Physics, **52**, No. 6, p. 949-954 (1999).
  16. **Large Scale Pathology of Universes with  $V_{II_0} \times VIII$  Isometries**  
*C. Dariescu and M.A. Dariescu.*  
 Foundations of Physics Letters, **13**, No.4, p. 147-166, (2000).
  17. **Magnetic Fields in Spaces with  $V_{II_0} \times VIII$  Isometries**  
*C. Dariescu and M.A. Dariescu*  
 Australian Journal of Physics, **53**, No. 3, p. 345-353 (2000).
  18. **Wess-Zumino Currents on  $S^3 \times R$  Spacetime**  
*M.A. Dariescu and C. Dariescu*  
 Foundations of Physics Letters, **15**, No. 1, p. 85-94 (2001).
  19. **Large Scale Pathology and Gravitomagnetic Resonances in Static  $V_{II_0} \times VIII$  Spacetimes with Mixed Matter-Sources**  
*C. Dariescu and M.A. Dariescu*  
 International Journal of Modern Physics A, **16**, No. 22, p. 3707-3716 (2001).
  20. **Quantum Flux-based Resonances in Solitonic Vortices**  
*M.A. Dariescu and C. Dariescu*  
 Chaos, Solitons and Fractals, **13**, No. 9, p. 1851-1855 (2002).
  21. **SU(N) Supersymmetry on  $S^3 \times R$  Spacetime**  
*M.A. Dariescu and C. Dariescu*  
 Foundations of Physics Letters, **15**, No. 3, p. 277-286 (2002).
  22. **First-Order Perturbative Approach to Charged Boson Stars**  
*M.A. Dariescu and C. Dariescu*  
 Physics Letters B, **548**, Nos. 1-2, p. 24-28 (2002).
  23. **Transition Rates in Charged Boson Nebulae**  
*C. Dariescu and M.A. Dariescu*  
 Physics Letters B, **566**, Nos. 1-2, p. 19-26 (2003).
  24. **Vacuum Electromagnetic Modes in Friedman-Robertson-Walker Universe**  
*C. Dariescu and M.A. Dariescu*  
 International Journal of Modern Physics A, **18**, No. 31, p. 5725-5732 (2003).

25. **CP-violating rate difference relations for  $B \rightarrow PP$  and  $B \rightarrow PV$  in broken  $SU(3)$**   
*M.A. Dariescu, N.G. Deshpande, X.-G. He and G. Valencia*  
 Physics Letters B, **557**, p. 60-68 (2003).
26. **Alternative Approach to  $B \rightarrow \eta' K$  Branching Ratio Calculation**  
*M.A. Dariescu and C. Dariescu*  
 Eur. Phys. J. C, **36**, No. 2, p. 215-220 (2004).
27. **CP Violating SUSY effects in penguin dominated modes  $B \rightarrow K \Phi$  and  $B \rightarrow K \Phi^*$**   
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