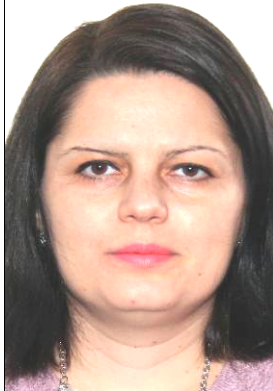




## Curriculum vitae Europass



### Informații personale

Nume / Prenume **BOBEI P. ANDREEA -RODICA**

Adresă București

E-mail [andreea.sterian@physics.pub.ro](mailto:andreea.sterian@physics.pub.ro)

Naționalitate romana

Data nașterii 1980

### Locul de muncă Domeniul ocupațional

Universitatea „Politehnica“ din București  
Sef lucrari dr. (Invatamant superior)

### Experiența profesională

Perioada

- **01.10.2007**- prezent: Sef lucrari titular, Departamentul de Fizica, Facultatea de Științe Aplicate – Universitatea „Politehnica“ București.
- **01.10.2004 - 01.10.2007**: Asistent universitar titular, Catedra de Fizică II, Facultatea de Științe Aplicate – Universitatea „Politehnica“ București.
- **01.10.2003-01.10.2004** : Preparator universitar la Catedra de Fizică, Universitatea “Politehnica” București.
- **Asistent Cercetare** la Prooptica SA (2 ani).

### Funcția / postul ocupat

Sef lucrari dr. (Lector universitar)

### Activități și responsabilități principale

**-Activitate didactica in invatamantul superior**  
**-Cercetare stiintifica**

### Numele și adresa angajatorului

Universitatea „Politehnica“ din București, Facultatea Stiinte Aplicate, Departamentul de Fizică, Str. Splaiul Independentei 313, Sector 6, Bucuresti

## Educație și formare

### Perioada

- **1994 – 1998**, Liceul teoretic “Tudor Vladimirescu” București, Secția de Matematică-Fizică.
- **1998 – 2003**, Universitatea “Politehnica” București, Facultatea de Inginerie Electrică, Media 9,68; 10 la licență; Diplomă de excelență a Universității „Politehnica” din București la absolvire.
- **Titluri obținute:**
- **2003**, „inginer diplomat”, în profilul „Electric”, specializarea „Electrotehnică generală”, direcția de aprofundare „Electrotehologii”;
- **2005**, doctor în specialitatea „Optoelectronică”, Academia Tehnică Militară.  
Diploma de Doctor în domeniul Inginerie Mecanica din 12.12.2005 emisa de ACADEMIA TEHNICA MILITARA BUCURESTI, cu teza de Optoelectronica: **“Contributii la studiul amplificarii radiatiei coerente in sistemele optoelectronice”**  
(Teza fiind interdisciplinara a fost avizata la CNATDCU de Comisiile de Fizica , Inginerie Electrica si Inginerie Mecanica).

## Nivelul în clasificarea națională sau internațională

- **Studii universitare complete**
- Burse de performanță, UPB, în anii universitari 1999-2000 și 2000-2001.
- „Atestat de comunicare managerială”, Universitatea „Politehnica” din București.
- Diplome de competență lingvistică.

## Activitatea didactică în învățământul superior

**Activitatea didactică de CURS, seminar și laborator** am desfășurat-o la disciplinele Fizică I, II și III la Facultățile IMST, ETTI, Automatică și Calculatoare, Energetica și Transporturi, după cum urmează:

Cursuri predate până în prezent:

Fizică I (Mecanica, Termodinamica și Fizica statistică, Electromagnetism și Optică) la Ciclul de Licență, Secțiile de *Tehnologia Construcțiilor de Masini* și *Nanotehnologii*, și *Sisteme Neconvenționale* și

Fizică, la Ciclul de Licență, Secția *Inginerie economică industrială* a Facultății de Ingineria și Managementul Sistemelor Tehnologice din cadrul Universității Politehnica București.

Seminar și laborator:

Facultatea de Electronica, Telecomunicații și Tehnologia Informației (prof. Eleonora Bena), Facultatea IMST, Facultatea Energetica (prof. Daniela Buzatu), Facultatea de Transporturi (prof. Laurentiu Fara și prof. Razvan Mitroi).

### **Acoperirea cursurilor si a aplicatiilor cu manuale universitare:**

Sunt autoare sau coautoare la **10 cărți (manuale) astfel: 4 manuale de fizica, 4 monografii stiintifice si 2 îndrumare de laborator.**

#### **Manuale universitare publicate:**

1. Sterian Andreea Rodica,, " **Mecanică clasică**", Printech Publishing House, Bucharest 223 p., (ISBN 978-606-521-606-8, (2010).
2. Sterian Andreea Rodica, "**Fenomene termice**", Printech Publishing House, Bucharest 153 p., (ISBN 978-606-521-754-6, (2011).
3. Sterian Andreea Rodica, "**Fizica atomului si a solidului**" Printech Publishing House, Bucharest, 235 p., (ISBN 978-606-521-468-2, (2010).
4. Sterian Andreea Rodica "**Lectii de fizica pentru ingineri, vol.I**", Omnia Univ. S.A.S.T., Braşov, 350 p.,(ISBN 978-973-134-133-0, 978-973-134-139-2). (2012) (Reeditare, intr-o noua structura unitara a unor capitole din cartile: " **Mecanică clasică**", "**Fenomene termice**" si "**Mecanică cuantica**"; *capitolele de probleme au fost scoase din cartile de origine iar cartea de Mecanica cuantica, nu este inclusa in prezenta lista de carti, deci, partea a treia, nu apare de doua ori in lista de lucrari, desi este reeditata).*

#### **Indrumare de laborator:**

1. Mihaela Ghelmez (Dumitru), Stefan Pusca, Cristian Toma, Andreea Sterian, Gheorghe Popescu, " **Elemente de aprofundare a lucrarilor de laborator de fizica solidului (Indrumar)**", Editura Printech, Bucuresti (ISBN 973-718-310-X), 107 pagini, 2005.
2. Mihaela Ghelmez (Dumitru), Cristian Toma, Stefan Pusca, Andreea Sterian, " **Elemente de aprofundare a lucrarilor de laborator de optica (Indrumar)**", Editura Printech, Bucuresti (ISBN 973-652-694-9-53), 167 pagini, 2004

Link-uri-Cursuri pe internet-Platforma Moodle UPB

**Publicarea pe site-ul Facultatii de Stiinte Aplicate a unor parti din cursul de fizica pe care-l predau studentilor, alaturi de celelalte manuale, deja publicate pe suport de hartie la diferite Edituri, dupa cum am mentionat mai sus este o preocupare a mea permanenta.**

**Exemplu:** [http://www.physics.pub.ro/Cursuri/Andreea Bobei - Fizica 2/CAP.2.pdf](http://www.physics.pub.ro/Cursuri/Andreea_Bobei_-_Fizica_2/CAP.2.pdf)

Index of /Cursuri/Andreea Bobei - Fizica 1 (Cap.1-6)

Index of /Cursuri/Andreea Bobei - Fizica 2(Cap.1-2)

#### **Alte activități didactice**

- Am condus lucrari de cercetare stiintifica la Cercurilor Studentești ale Departmentului de Fizică (Fac. FSA, Transporturi, Energetica, Mecanica, Stiinta si Ingineria Materialelor). Peste 30 de lucrari au fost prezentate la Sesiunile cercurilor stiintifice studentesti din UPB, in sectii ca: Fotonica si tehnologii neconventionale, Fotonica si materiale avansate (MASTER), Fizica Tehnica, Tehnologii fotonice cu aplicatii in medicina si biologie, multe dintre lucrarile conduse fiind premiate.
- Am participat la toate examenele de admitere in UPB, conform Fiselor de autoevaluare.
- Am propus probleme pentru Culegerea de probleme pentru admiterea in UPB, publicata de Departamentul de Fizica.
- Am contribuit la întocmirea documentele de acreditare solicitate de Facultatile de Energetica si IMST, la disciplina Fizica.
- Am participat la proiectul didactic: „Personalul didactic din sistemul de învățământ preuniversitar și universitar de stat – promotor al învățării pe tot parcursul vieții”, *Cod contract: POSDRU/174/1.3/S/149155 Beneficiar: Ministerul Educației și Cercetării Științifice.*

Activitatea de cercetare științifică

Activitatea de cercetare științifică am desfășurat-o la Universitatea „Politehnică” București, Departamentul de Fizică și Centrul Universitar de Inginerie Optică și Fonică, Facultatea de Științe Aplicate precum și la Prooptica SA.

**Domenii de competență:** fizica, amplificatoare optice, laseri, optoelectronica, fotonica.

- **Directiile de cercetare științifică la dezvoltarea cărora am contribuit sunt amplificatoarele optice și dinamica neliniară în optoelectronica**, cu rezultate privind două categorii de sisteme bazate pe amplificarea radiației și anume: **sistemele dopate cu erbiu și nanostructurile laser cu gropi cuantice (QWL)**.
- Sunt autoare unica a primei monografii de "**Amplificatoare optice**" publicate în România în anul 2006 la Editura Printech, 336 p., care cuprinde și rezultate ale cercetărilor proprii, dar și a unui număr semnificativ de lucrări științifice publicate în reviste de prestigiu cotate sau indexate ISI (peste 50), recunoașterea internațională de care mă bucur fiind ilustrată de numărul mare de citări ISI ale lucrărilor științifice publicate, factorul Hirsch fiind mai mare decât 7.

*Alte rezultate specifice care atestă contribuțiile și prioritățile recunoscute:*

- **Teza de doctorat: "Contribuții la studiul amplificării radiației coerente în sistemele optoelectronice".**
- **Lucrări științifice publicate la care sunt autoare principală sau singur autor**. A se vedea Lista de lucrări cu accent pe cele 10 lucrări selectate precum și **factorul P (prim autor sau autor corespondent) din Anexa 3b:  $P = 3.404$ , față de minimum  $P \geq 2$  prevăzut și factorul Hirsch  $h=7$  față de minimum prevăzut,  $h \geq 5$ .**
- **O a doua monografie publicată în țară:**

**1. Andreea Rodica Sterian, "Laserii în ingineria electrică, Vol.I: Generarea și amplificarea radiației laser în ingineria electrică (QWL și EDFA)", Editura Printech, București, 174 p., (ISBN973-652-811-2), (2003).**

- **Se adaugă 2 capitolele de carti in domeniu, publicate la Editura INTECH, Vienna:**

**1. Coherent Radiation Generation and Amplification in Erbium Doped Systems**  
By Dr. Andreea Rodica Sterian.

Part of the book: **Advances in Optical Amplifiers**, Intech, 2011.

**2. Nonlinear Dynamics in Optoelectronics Structures with Quantum Well**

By Dr. Andreea Rodica Sterian (Bobei)

Part of the book: **Recent Development in Optoelectronic Devices**, Intech, 2018.

## IntechOpen

### Advances in Optical Amplifiers

Edited by Paul Urquhart

Chapter Coherent Radiation Generation and Amplification in...

By Sterian Andreea Rodica

Published: February 14th 2011  
DOI: 10.5772/571  
ISBN: 978-953-307-186-2  
Copyright year: 2011

### Recent Development in Optoelectronic Devices

Edited by Ruby Srivastava

Chapter Nonlinear Dynamics in Optoelectronic Structures w...

By Andreea Rodica Sterian

Published: August 29th 2018  
DOI: 10.5772/intechopen.72272  
ISBN: 978-1-78923-603-3  
Print ISBN: 978-1-78923-602-6  
Copyright year: 2018

(Short CV , INTECH: University Lecturer, Dr. Eng. at the University "Politehnical" of Bucharest, Faculty of Applied Sciences, Department of Physics, Str. Splaiul Independentei 313, Sector 6, Bucharest)

Alte exemple:

- **.Contractul de cercetare științifică, Program Național "CERES", Nr. 3-16/2003 (Nr. 18-04-04/UPB), "Cercetări privind nanostructurile de generare și amplificare a radiației coerente"** Beneficiar: IFIN-H.H. Durata: 2003 - 2005, 2 ani; **Responsabil contract, UPB): Sterian Andreea,** (Contract de cercetare finalizat cu lucrari stiintifice publicate);
- **Premii CNCSIS:** Premiul cod 270, pentru un articole ISI publicat in anul 2009 si 2 premii CNCSIS in anul 2013: pentru articole ISI: cod CNCSIS - 4129 si cod CNCSIS – 4453 (zuna rosie), cu tematica in domeniul de excelenta.

Preocupările mele științifice au fost favorizate de climatul științific și didactic oferit de Departamentul de fizică al Universității "Politehnica" București, de existența unei puternice Școli de fizică și a unui Centru de fonică acreditat a cărui membra fondatoare sunt precum și de accesul la bibliotecile de specialitate din UPB și din țară.

Interesul față de cercetarea științifică în domeniu s-a concretizat, **încă din anii studentiei**, prin lucrări prezentate la manifestări științifice studentesti ale UPB, unde am obținut premii și diplome precum și **în 2 granturi (burse) internaționale la competițiile „Young Scientist“:** **Grant for participation in EPS – 11 Conference: „Trends in Physics “, London, September 1999, UK. Institute of Physics, London, U.K., și Grant for participation at the International School of Quantum Electronics, 18-220 September 2000, Varna, Bulgaria.**

Deosebit de onorant pentru mine a fost să devin, în anul 2000, **membră asociată invitată a Institutului de Fizică din Londra.** Tot în anii studentiei, în 1998, alături de alți 6 studenți, am devenit **membra fondatoare** a **Centrului Universitar de Inginerie Optică și Fotonica-FOCUM**, centru de cercetare acreditat în UPB.

### **Publicatii cu caracter științific conform listei de lucrari actualizate (2019)**

- 10 carti ( 6 carti (manuale, indrumare de laborator) 2 carti de specialitate publicate in edituri recunoscute cu ISBN, la care se adauga si cele 2 capitole de carti publicate la edituri recunoscute ISI internationale (IntechOpen);
- **In bazele de date ISI Web of Knowledge sunt mentionate: 58 lucrari ( ISI Web of Science și ISI Proccedings) la care sunt autoare sau coautoare, la care se adauga lucrarile ne-ISI (articole și carti) publicate de Andreea-Rodica Bobei (Sterian), conform listei de lucrari.**

- **3 aparate omologate si 25 comunicari stiintifice nepublicate.**
- **Participarea la proiecte de cercetare stiintifica nationale si internationale.**

Am fost membră a echipei de cercetare în cazul a **11 proiecte de cercetare de nivel national**, la doua dintre acestea fiind responsabila de temă din partea UPB. De asemenea, am participat, ca membra in echipa de cercetare a UPB, la activitatea a **4 proiecte de cercetare internationale**.

Exemplific:

**1** Proiectele de cercetare stiintifica la care am colaborat sunt prezentate in Anexa Pi 5. Particip si in prezent la **Proiectul SOLHET: High-performance tandem heterojunction solar cells for specific applications**, Proiect nr. 34/2016, FI 541602, Perioada proiectului: 01.04.2016 - 30.08.2019, Program M-ERA.net, Coordonator Proiect IFE Norvegia, Parteneri UPB + INOE, (Responsabil contract, UPB: **Prof. Dr. L. Fara**; Bobei Andreea-colectivul de cercetare).

- Conform Fiselor de autoevaluare, privind **recunoasterea impactului activitatii** putem mentiona calitatea de membra a urmatoarelor **organizatii stiintifice nationale: SRF**, dar si a **Centrului de Fotonica "FOCUM" si internationale: SPIE, EPS, EOS, European Photonics<sup>21</sup> Platform/WG7**.
- **Pe plan international** mentionez si calitatea de membra in **Comitetul Stiintific al International Conference on International Higher Education "IADIS" 2012, 28 – 30 November, Perth, Australia**, dar si **Committee Member (Andreea Bobei Sterian, Bucharest Polytechnical University) la International Conference on Educational Technologies "ICEduTech"**, manifestare stiintifica care a avut loc in anii: **2013** (Malaysia), **2014** (NewTaipei City, Taiwan), **2015** (Florianópolis, Santa Catarina, Brazil), **2016** ( Melbourne, Australia), **2017**(Sydney, Australia) si 2019 (**Hong Kong**).
- La fiecare dintre aceste conferinte internationale am fost **evaluator online** invitat a unor lucrari stiintifice privind dezvoltarea tehologiilor educationale din invatamant, pentru un numar de 4-6 lucrari stiintifice, la fiecare din cele 6 editii.

Limba maternă	<b>Romana</b>
Limbi străine cunoscute	<b>Engleza, franceza</b>
Anexe	<b>Lista de lucrarii</b>

16.04.2019

**Andreea Rodica Bobei (Sterian)**

## **LISTA COMPLETA DE LUCRARI ALE CANDIDATEI** **sef de lucrari dr. ANDREEA RODICA BOBEI**

### **(a) LISTA CELOR 10 LUCRARI CELE MAI RELEVANTE**

1. A.R. Sterian, "Computer modeling of the coherent optical amplifier and laser systems", Editor(s): Gervasi, O; Gavrilova, ML., Conference: International Conference on Computational Science and Its Applications (ICCSA 2007), Kuala Lumpur, MALAYSIA, AUG 26-29, 2007 ; Computational Science and Its Applications - ICCSA 2007, Pt 1, Proceedings, vol. **4705**, pp. 436-449, (2007). **Accession Number:** WOS:000250429300035; Document Type: **Proceedings Paper**

2. A.R. Sterian, F.C.Maciuc, "Numerical model of an EDFA based on rate equations", 12th International School on Quantum Electronic; Laser Physics and Applications, **Book Series:** PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS *Proc. SPIE*, vol.**5226**, pp.74-78, (2002).  
Document Type: Proceedings Paper **Accession Number:** WOS:000187162100012, **ISBN:** 0-8194-5099-5

3. Sterian, AR; Ninulescu, V., "The dynamics of erbium-doped fiber laser" : Book Editor(s): Atanasov, PA; Gateva, SV; Avramov, LA; et al. 13th International School on Quantum Electronics, Bourgas, BULGARIA, SEP 20-24, 2004; Book Series: PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS (SPIE) Volume: 5830 Pages: 551-555 10.1117/12.618783, 2005. **ISBN:** 0-8194-5822-8; **Accession Number:** WOS:000229606500095 **Document Type:** Proceedings Paper

4. Ninulescu, Valerica; Sterian Andreea; Sterian, Paul, "Dynamics of a two-mode erbium-doped fiber laser" - art. no. 63440Q; Book Editor(s): Shcherbakov, IA; Wang, Q; Priezzhev, AV; et al; 13th International Conference on Advanced Laser Technologies, Tianjin, PEOPLES R CHINA, SEP 03-06, 2005; Book Series: PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS (SPIE) Volume: 6344 Pages: Q3440-Q3440 Article Number: 63440Q DOI: 10.1117/12.693430 Part: 1&2 Published: 2006, **ISBN:** 0-8194-6420-1. **Document Type:** Proceedings Paper, **Accession Number:** WOS:000239452900026

5. Sterian, AR; Borcan, O; Spulber, C; Sterian, P; Toma, F., "A new possibility of experimental characterization of a time of flight telemetric system", *Romanian Reports in Physics*, Vol. 64, No. 3, P. 891-904, 2012. **Document Type:** Article; **IF:** 1.123, **AIS 2012:** 0.125, **ISSN:** 1221-1451, **Web of Science** Accession Number: WOS:000308975300024

6. Ninulescu, Valerica; Nicolae, Vladut-Bogdan; Sterian Andreea, "Quantum well lasers for medical industry", Book Editor(s): Elloumi, M; Kung, J; Linial, M; et al., Conference: 2nd International Conference on Bioinformatics Research and Development Location: Vienna, AUSTRIA Date: JUL 07-09, 2008, BIOINFORMATICS RESEARCH AND DEVELOPMENT, PROCEEDINGS Book Series: COMMUNICATIONS IN COMPUTER AND INFORMATION SCIENCE Volume: 13 Pages: 563-570 Published: 2008. Document Type: Proceedings Paper **Accession Number:** WOS:000259169500046, **ISBN:** 978-3-540-70598-7, **ISSN:** 1865-0929

7. Dan Alexandru Anghel, Andreea Rodica Sterian, and Paul E. Sterian, "Modeling Quantum Well Lasers", Hindawi Publishing Corporation Mathematical Problems in Engineering, Volume 2012, Article ID 736529, 11 pages, doi:10.1155/2012/736529, **Document Type:** Article; **IF:** 1.383, **AIS 2012=** 0.223, **ISSN:** 1024-123X, **Web of Science** Accession Number: WOS:000302687500001

8. Petrescu, Andrei D.; Sterian Andreea Rodica; Sterian, Paul E., "Solitons propagation in optical fibers computer experiments for students training", Book Editor(s): Gervasi, O; Gavrilova, ML, Conference: International Conference on Computational Science and Its Applications (ICCSA 2007), Kuala Lumpur, MALAYSIA, AUG 26-29, 2007 ; Computational Science and Its Applications - ICCSA 2007, Pt 1, Proceedings Book Series: LECTURE NOTES IN COMPUTER SCIENCE, Volume: **4705** Pages: 450-461, 2007 , Document Type: Proceedings Paper; **Accession Number:** WOS:000250429300036

9. Sterian Andreea Rodica, "Coherent Radiation Generation and Amplification in Erbium Doped Systems"; Cap.12, **24** pag.(pp.255-278), **Advances in Optical Amplifiers**, Paul Urquhart (Ed.), ISBN: 978-953-307-186-2, **InTech, VIENNA** (2011). (51756 total chapter downloads from 2011), 41 Web of Science Citations). <https://www.intechopen.com/search?term=ANDREEA%20RODICA%20STERIAN>

10. STERIAN, Andreea Rodica "Nonlinear Dynamics in Optoelectronic Structures with Quantum Well"; Chapter 4, pp.53-78. In: **Recent Development in Optoelectronic Devices**. Edited by Ruby Srivastava, **IntechOpen**, 2018. DOI: 10.5772/intechopen.72272 (1521 total chapter downloads from 2018) <https://www.intechopen.com/search?term=ANDREEA%20RODICA%20STERIAN>

## (b) TEZA DE DOCTORAT

Diploma de Doctor în domeniul Inginerie Mecanica din 12.12.2005 emisa de ACADEMIA TEHNICA MILITARA BUCURESTI, cu teza de Optoelectronica: "**Contributii la studiul amplificarii radiatiei coerente in sistemele optoelectronice**" (TEZA FIIND INTERDISCIPLINARA A FOST AVIZATA LA CNADTCU DE COMISIILE DE FIZICA , INGINERIE ELECTRICA SI INGINERIE MECANICA).

## (c) TITLURI DE PROPRIETATE INDUSTRIALA ȘI INTELLECTUALA

### (aparate omologate)

ANDREEA RODICA STERIAN a participat in cadrul Programului Național "RELANSIN" la realizarea a trei aparate care au fost omologate:

**A1. "SISTEM DE ACHIZITIE A TINTELOR CU TELEMETRU LASER 1,54  $\mu\text{m}$ " - faza prototip. (ACT DE OMOLOGARE/ CERTIFICARE Nr. 6/27.10.2005).** Aparat realizat in cadrul Contractului de cercetare științifică, Program Național "Relansin", Nr. 1774/2003 (Nr. 18-03-07/UPB); (Andreea Rodica Sterian-membra a Colectivului de cercetare), (Anexa A1).

**A2. "ECHIPAMENT DE DIAGNOZA NECONVENTIONALA" (IRTEST)-FAZA PROTOTIP. (ACT DE OMOLOGARE/ CERTIFICARE Nr. 8/09.12.2005).** Aparat realizat in cadrul contractului de cercetare științifică, Program Național "Relansin", nr. 1756/2003 (nr. 18-04-01/UPB), (Andreea Rodica Sterian-membra a Colectivului de cercetare), (Anexa A2).

**A3. "COMBINA DE OBSERVARE ZI/NOAPTE CU ECHIPAMENT DE TERMOVIZIUNE FARA SISTEM DE RACIRE"(COMBITERM)-FAZA PROTOTIP. (ACT DE OMOLOGARE/ CERTIFICARE Nr. 9/09.12.2005).** aparat realizat in cadrul contractului de cercetare științifică, Program Național "Relansin", Nr. 1775/2003 (NR. 18-04-02/UPB); (Andreea Rodica Sterian-membra a Colectivului de cercetare), (Anexa A3).

## (d) CARTI SI CAPITOLE ÎN CARTI

### Ca – Carti / cursuri (manuale) pentru uzul studentilor, publicate în edituri recunoscute.

**Ca 1.** Sterian Andreea Rodica, " *Mecanică clasică*", Printech Publishing House, Bucharest 223 p., (ISBN 978-606-521-606-8, (2010).

**Ca 2.** Sterian Andreea Rodica, " *Fenomene termice*", Printech Publishing House, Bucharest 153 p., (ISBN 978-606-521-754-6, (2011).

**Ca 3.** Sterian Andreea Rodica, " *Fizica atomului si a solidului*" Editura Printech, Bucuresti, 235 p., (ISBN 978-606-521-468-2, (2010).

**Ca 4** Andreea Rodica Sterian " *Lectii de fizica pentru ingineri, vol.I*", Omnia Univ. S.A.S.T., Brașov, 350 p., (ISBN 978-973-134-133-0, 978-973-134-139-2). (2012) (Reeditare, intr-o noua structura unitara a unor capitole din cartile: " *Mecanică clasică*", " *Fenomene termice*" si " *Mecanică cuantica*"; capitolele de probleme au fost scoase din cartile de origine iar cartea de *Mecanica cuantica*, nu este inclusa in prezenta lista de carti, deci, partea a treia, nu apare de doua ori in lista de lucrari, desi este reeditata).

### Cb - Carti de specialitate publicate în edituri recunoscute.

**Cbi 1** Sterian Andreea Rodica, " *Coherent Radiation Generation and Amplification in Erbium Doped Systems*", 24 pag., in *Advances in Optical Amplifiers*, Paul Urquhart (Ed.), ISBN: 978-953-307-186-2, InTech, VIENNA (2011). Available from: <http://www.intechopen.com/articles/show/title/coherent-radiation-generation-and-amplification-in-erbium-doped-systems>;

**Submission date:** 26. July, 2010.

**Published online:** 14. February, 2011. **Cumulative Downloads: Total: 3838**

**Cbi 2** STERIAN, Andreea Rodica. Nonlinear Dynamics in Optoelectronics Structures with Quantum Well. Chapter 4, pp.53-78. In: Recent Development in Optoelectronic Devices. Edited by Ruby Srivastava, IntechOpen, 2018. DOI: 10.5772/intechopen.72272

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#### **Vi - Volumele unor manifestari stiintifice internationale recunoscute, organizate in tara si strainatate**

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**Vis.2 .** Laurentiu Fara, Dan Craciunescu, Paul Sterian, Andreea Bobei, Florin Dragan. Reliability Analysis of Photovoltaic Systems with LEDs Integrated in Lighting Applications, ISES Solar World Congress 2017, Abu Dhabi, UAE, 29 October - 02 November 2017. <http://proceedings.ises.org/>. All papers are open-access, searchable and downloadable. <http://proceedings.ises.org/paper/swc2017/swc2017-0049-Fara.pdf>  
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#### **Vn - Volumele unor manifestari stiintifice nationale**

**Vn 1.** Mihaela Ghelmez (Dumitru), B. Dumitru, Andreea Rodica Sterian, Nicoleta Rizescu, Livia Ungureanu, "Computers Aided Physics for Engineers"

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**Vn 2.** Gh. Linca, Iulian Badragan, Andreea Rodica Sterian, "Numerical Models for the EDFA Characterisation", Vol." Cercetari in optoelectronica", Editura Universitatii din Pitesti, , Bucuresti 2000, sub egida "Societatii Romane de Optoelectronica", ISBN 973-9450-47-4.

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#### **(g) ALTE LUCRARI SI CONTRIBUTII STIINTIFICE (P, E)**

**P – Proiecte de cercetare-dezvoltare – inovare obtinute prin competitie, pe baza de contract/grant, in tara/strainatate**

##### **Pn-Proiecte de cercetare nationale**

**Pn1.** Contract de cercetare stiintifică, Program Național "RELANSIN", Nr. 1774/2003 (Nr. 18-03-07/UPB), "Sistem de achiziție a țintelor cu telemetru laser 1,54 μm" Beneficiar: AMCSIT-MEC. Durata: 2003 - 2005, 3 ani; Director contract: Paul Sterian, Valoarea contractului care revine UPB: 40,33 mil. lei (2004); 32,7 mil. Lei (2005); Sterian Andreea- Colectivul de cercetare. ( Anexa **Pn 1**).

**Pn2.** Contract de cercetare stiintifică, Program Național "RELANSIN ", Nr. 1756/2003 (Nr. 18-04-01/UPB), "Echipament de diagnoză neconvențională - IRTEST; Beneficiar: AMCSIT-MEC. Durata: 2003 - 2005, 3 ani; Responsabil contract UPB: Paul Sterian, Valoarea contractului care revine UPB: 25,07 mil. lei (2004); 32,7 mil. Lei (2005); Sterian Andreea- Colectivul de cercetare.  
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**Pn3.** Contract de cercetare stiintifică, Program Național "RELANSIN", Nr. 1775/2003 (Nr. 18-04-02/UPB), "Combină de observare zi/noapte cu echipament de termoviziune fără sistem de răcire" (Colectivul de cercetare). Beneficiar: AMCSIT-MEC. Durata: 2003 - 2005, 3 ani; Responsabil contract UPB: Paul Sterian, Valoarea contractului care revine UPB: 52,00 mil. lei (2004); 30,87 mil. Lei (2005); Sterian Andreea- Colectivul de cercetare.  
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**Pn4.** Contract de cercetare științifică, Program Național "CERES", Nr. 3-16/2003 (Nr. 18-04-04/UPB), "Cercetări privind nanostructurile de generare și amplificare a radiației coerente" Beneficiar: IFIN-H.H. Durata: 2003 - 2005, 2 ani;  
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**Pn 5.** Contract de cercetare științifică, Grant "ANSTI/CNCSIS, TIPA", Nr. 6111/2000, (Cod: B20, Tema A15, (Nr. 18-02-8/UPB), "Studiul structurilor disipative cu aplicații în fonică, ingineria optică și nucleară" (Colectivul de cercetare). Durata: 2000 - 2002, 2 ani( Anexa **Pn 5**).

**Pn 6.** Contract de cercetare științifică, Grant "CNCSIS, TIPA", Nr. 107/2000, Tema 653/2001, (Nr. 18-02-05/UPB), "Cercetări teoretice și experimentale asupra oscilatorilor cuantici în tandem master - slave cu control sensibil la fază: aplicații în optoelectronică" (Colectivul de cercetare). Durata: 2001 - 2003, 3 ani. ( Anexa **Pn 6**).

**Pn7.** Contract cercetare national ( Prof. Mihaela Ghelmez Dumitru) Grant tip T, MEC – ANSTI – „Studiul creșterii performanței în învățare și cercetare interdisciplinară bazate pe calculator (UPB)” – (Colectivul de cercetare) Durata: 2001, 1 an. ( Anexa **Pn 7**).

**Pn 8.** Contract cercetare national (Director: Prof. Doina Manaila Maximean) " Noi sisteme nanocompozite cu cristale lichide. Studiul proprietatilor termofizice si al raspunsului optic in camp electric si magnetic" , Tipul: IDEI/UEFISCU, Nr intern FI540904, Nr. UEFISCU/CNCSIS 677, din 15.01.2009, ID\_123; valoare 175000 in anul 2010; (Sterian Andreea, Colectivul de cercetare: 20 PUNCTE-2009, 40 PUNCTE-2010),( Anexa **Pn 8**).

**Pn 9.** Contract cercetare national ( Prof. Marcel Dobre) "Tehnologii de producere a laptelui fara continut de strontiu", Tipul:PNCIDI, Nr.2133/18-04-06-UPB/2004- Beneficiar AMCSIT- valoare 26400 in anul 2006;. (Sterian Andreea, Colectivul de cercetare, 6 PUNCTE-2006), ( Anexa **Pn 9**).

**Pn 10.** Contract cercetare national "QUANTGRID: Securizarea Comunicatiilor GRID prin metode cuantice de criptare a informatiei" Tip:CNCSIS PNCIDI, CEEX, ACAD, (2008-2010) Nr. 11044/2007/IFIN; Nr. FI 540804/2008/UPB. Director Proiect IFIN: Mihai-Octavian Dima, Durata contract:2007-2010. (**Sterian Andreea Rodica, Responsbil contract UPB**) (Obs.A fost responsabil din partea UPB (partener) la contractul **Securizarea Comunicatiilor GRID prin Metode Cuantice de Criptare a Informatiei** (QUANTGRID), 2007-2010, PNCIDI-2, Nr.11-044/2007-CNMP/Nr.FI 540804/UPB. Suma aprobata UPB: 80000 lei. Director proiect: Institutul National pentru Fizica si Inginerie Nucleara, IFIN-HH.O. Box MG-6, RO-077125 Bucharest-Măgurele, Romania; Parteneri ai IFIN-H.H : INFPLR. si Univ. Polit. Buc.(Centrul Universitar de Inginerie Optica si Fotonica: dr.ing.sef lucr.Andreea Rodica Sterian) Rezultate: 3 lucrari ISI (Web of Knowledge) publicate si 3 comunicari la Congrese Internationale. [www.theory.nipne.ro/~modima/QUANTGRID/PDF-1158.pdf](http://www.theory.nipne.ro/~modima/QUANTGRID/PDF-1158.pdf)). (Anexa **Pn 10**).

**Pn 11.** Contract de cercetare CNCSIS nr. 27644/2005/Cod 60. Tema:"Dinamica disipativa superradianta a unei nanostructuri PIN cu puncte cuantice"( Director Vasile Branzanescu, Responsabil grant Eliade Stefanescu), Executant: Institutul de Matematica "Simion Stoilov"al Academiei Romane (Sterian Andreea, Colectivul de cercetare). ( Anexa **Pn 11**).

#### **Pi- Proiecte de cercetare internationale**

**Pn i1.** Titlu proiect: „Personalul didactic din sistemul de învățământ preuniversitar și universitar de stat – promotor al învățării pe tot parcursul vieții”. Cod contract: POSDRU/174/1.3/S/149155  
Beneficiar: Ministerul Educației și Cercetării Științifice Anexa **Pi 1**).

**Pi 2.** Contract cercetare international **LAGUNA**(Sterian Andreea, Echipa de cercetare -UPB (Anexa **Pi 2**). **Funding Agency**, European Commission:FP7 Design Studies LAGUNA, **Grant Number** 212343, LAGUNA-LBNO 284518. (Anexa **Pi 2**).

**Pi 3.** Contract cercetare international **COST** "Multi scale modelling and experimental validation for Solar photovoltaics", Director: Dr.James Connolly-Valencia Nanophotonics Technology Center; Romanian Participants: Prof. Dr. L. Fara and Dr. Sterian Andreea,-UPB. The funding is provided via an yearly grant agreement. COST is supported by the **EU Framework Programme for Research and Innovation Horizon 2020**, .Materials, Physical and Nanosciences COST Action MP1406, (2015-2019), (Anexa **Pi 3**).

**Pi 4.** Denumirea proiectului: CELULE SOLARE TANDEM CU HETEROJONCTIUNE, DE ÎNALTĂ PERFORMANȚĂ, PENTRU APLICAȚII SPECIFICE (Acronim: SOLHET)Cod proiect: M-ERA.NET-SOLHET. Contractul de finanțare nr. 34/2016, Numar intern UPB:FI-541602 UPBtotal Buget SOLHET: 506250 lei. Buget alocat pe **2017**: 166500 lei (35650 Euro).



Perioada de desfasurare a proiectului: **1 aprilie 2016 – 20 iulie 2019** (40 de luni). Director contract UPB: prof. dr. Laurentiu Fara. Consortiu proiect: IFE (Institute for Energy Technology, coordonator), UIO (University of Oslo), PUB (Polytechnic University of Bucharest), INOE (National Institute for Research and Development in Optoelectronics), Tritech Group S.R.L. (Anexa Pi 4)

#### E-Comunicari stiintifice nepublicate in tara/strinatate

- E1.** O. Borcan, C. Spulber, A. R. Sterian, I. Ursache, "Contribution to the Non-Destructive Diagnosis by Active Thermography", The VII<sup>th</sup> National Congress of Optoelectronics-'SIOEL-2004' with International Participation, October 28-29, 2004, Bucharest, Romania, (Scientific Programme, p .33).
- E2.** Elena Barbarini, Marioara Avram, Andreea R. Sterian, Guolin Xu and Ciprian Iliescu, "Theoretical and experimental consideration regarding magnetic separation in microfluidic device", 8<sup>th</sup> World Congress on Computational Mechanics (WCCM8) and 5<sup>th</sup> European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), June 30 – July 5, Venice, Italy, 2008.
- E3.** Valerica Ninulescu, Paul Sterian, Andreea Sterian, - "Communication system based on direct modulated chaotic lasers", The 10-th International Balkan Workshop on Applied Physics", July 7 - 9, 2009, Constanta Romania.
- E4.** Paul Sterian, Bogdan Lazar, Andreea Rodica Sterian, - "Metoda de criptare optica a informatiei pe purtatoare laser haotica", Sesiunea Stiintifica de Primavara a Academiei Oamenilor de Stiinta din Romania, Targoviste, Romania, 28-29aprilie, 2009.
- E5.** M. Dima, D. Aranghel, B. Mitrica(1), M. Dulea, M. Stoica, M. Udrea, R.Sterian, P. Sterian, "Classical and Quantum Communications in Grid Computing", The 4-th National Conference of Applied Physics, Iasi, Romania, November 19 - 20, 2010, S1-O1 Section 1. Theoretical, Mathematical and Computational Physics ( to be published in a special number of the journal Bulletin of the Polytechnic Institute of Iasi, Mathematics. Theoretical Mechanics. Physics (recognized by CNCSIS, as B+).
- E6.** Ninulescu, V.I., Andreea Rodica Sterian, „Nonlinear dynamics in quantum-well laser diodes“, Europhysics Conference on Computational Physics 2004, Genova, Italy, 1-4 September 2004, Book of Abstracts, Colume 28D, pp. 145-146
- E7.** Mihaela Ghelmez, Elena Slavnicu, R.I. Traşcu, Andreea Rodica Sterian, „Laser Studies an some Biological Membrane Components in the Liquid Crystal State“, 8<sup>th</sup> European Conference on Liquid Crystals, Sesto (BZ), Italy, 27 Febr-4March, 2005.
- E8.** Mihaela Ghelmez (Dumitru), Cristian Toma, Bogdan Dumitru, Andreea Sterian, Paul Constantinescu, "Generating Pulses Sequences by Specific Differential Equations", The 12-th International Balkan Workshop on Applied Physics IBWAP-2011, S5- P26, Constanta, Romania, 2011.
- E9.** Mihaela Ghelmez (Dumitru), Andreea Sterian, Paul Constantinescu, "Photonic Technologies Course for a Master Program", The 12-th International Balkan Workshop on Applied Physics IBWAP-2011, S5- P9, Constanta, Romania, 2011.
- E10.** Mihaela Ghelmez, Andreea Rodica Sterian, Anca Gheorghiu, R.I. Traşcu, "Study of some Biological Membrane Mechanisms by Means of Nonlinear Optical Methods", The VII<sup>th</sup> National Congress of Optoelectronics-'SIOEL-2004' with International Participation, October 28-29, 2004, Bucharest, Romania, (Scientific Programme, p .34).
- E11.** Doina Manaila-Maximean, Constantin Rosu, Dan Donescu Stefan Frunza, Andreea Sterian, - "Influence of Pre-applied Electric Fields on the Optical Transmission of Polymer - Clay Composite", The 9-th International BalkanWorkshop on Applied Physics, July 7-9, 2008, Constanta, Romania ( Cod: S5 P85), Book of Abstracts, p 204.
- E12.** Paul Sterian, Valerica Ninulescu, Andreea P. Sterian, Bogdan Lazar - "Optical Communications Methods Based on Chaotic Laser Signals", Sesiunea Festiva de Comunicari Stiintifice (prof. D.A. Iordache), cu participare internationala), 28.05.2009, UPB, Bucharest , Romania.
- E13.** A.M. David, A.R. Sterian, M.P. Ivanov- "The Characteristics of Light Charged Particles Emission in the Spontaneous Fission of <sup>248Cm</sup> and <sup>252Cf</sup>", The 4 th. International Workshop on Nuclear Fissionand Fision Product Spectroscopy", May 13 - 16, 2009, Chateau de Cadarache, Saint-Paul-lez-Durance, France

**E14.** Mihaela Ghelmez (Dumitru), B. Dumitru, Andreea Rodica Sterian, "Modern Engineer and Physics Knowledges", The 9-th International Balkan Workshop on Applied Physics, July 7-9, 2008, Constanta, Romania ( Cod: S6 P04), Book of Abstracts, p 209.

**E15.** Paul Sterian, Andreea Rodica Sterian, "Photonics- Science and Engineering of the Light", Sesiunea Stiintifică de Primavara a Academiei Oamenilor de Stiinta din Romania, 9-10mai 2008, Dorna Arini, Romania.

**E16.** Andreea Rodica Sterian, Bogdan Adrian Stefanescu, Dan Anghel, Octavian Danila, Paul Sterian," Applications using Quantum Cryptography for Improving Data Transmissions Implemented in a Student Laboratory", The 9-th International Balkan Workshop on Applied Physics, July 7-9, 2008, Romania ( Cod: S5 P84), Book of Abstracts, p 204.

**E17.** Andrei D. Petrescu, Andreea Rodica Sterian, - " Optical soliton - propagation particularities of the multi-soliton solutions" (cod NP -13), The 5 -th Colloquium "Materials in Engineering and Numerical Physics" (MENP-5) joint with " The First Colloquium on "Physics of Materials" (PM-1), 9-11 Octombrie 2008, Bucharest, Romania.

**E18.** Octavia Borcan, Andreea Rodica Sterian, Catalin Spulber, Paul Sterian, "Caracterizare experimentală a unui sistem telemetru laser", Sesiunea Stiintifică de toamna a Academiei Oamenilor de Stiinta din Romania, MIOVENI, Romania. 22-23 Septembrie, 2010.

**E19.** Ninulescu, V.I., Mihaela Ghelmez (Dumitru), Andreea Sterian, B. Dumitru, "The non-linearity, source of instabilities", The 7<sup>th</sup> Conference on Applied and Industrial Mathematics-"CAIM'99" University of Pitesti, October 15-17, 1999, (Book of Abstracts, pag.37).

**E20.** Mihaela Ghelmez, M. Berteanu, Elena Slavnicu, S. Slavnicu Andreea Rodica Sterian, R.I. Traşcu, " Neutron Irradiation Impact on some Biological Structures", The V<sup>th</sup> National Congress of Physical and Rehabilitation Medicine with International Participation, 13-16 October 2004, pag.98, Bucharest, Romania. (Anexa E20- diploma de participare).

**E21.** Mihaela Ghelmez, P.Sterian, M. Berteanu, R.I. Traşcu, Andreea Rodica Sterian, "Photonic Applications in Medicine", The V<sup>th</sup> National Congress of Physical and Rehabilitation Medicine with International Participation, 13-16 October 2004, pag.108, Bucharest, Romania. (Anexa E20- diploma de participare).

**E22.** Mihaela Ghelmez, C. Toma, M. Berteanu, B. Dumitru, Andreea Rodica Sterian, "Dynamical Systems for Studying Fatty Acids Samples Generating Practical Test Functions for Filtering and Sampling Procedures",The V<sup>th</sup> National Congress of Physical and Rehabilitation Medicine with International Participation, 13-16 October 2004, pag. 99, Bucharest, Romania. (Anexa E20- diploma de participare).

**E23.** M.Ghelmez (Dumitru), E.Slavnicu, A. Sterian, B.Dumitru, D.Slavnicu, "Influence of external perturbations on the nonlinear optical behavior of some liquid crystal samples", Laser 2001, World of Photonics, 15th Intl. Conf. On Lasers and Electrooptics in Europe, 2001.

**E24.** F.S. Iliescu, K. Wai, J. A. Ga Santos, W. N. D. Ong, M. Isyazmi, N. Sahirah, and A. P. Sterian Bobei, Microneedles in a Novel design for painless injection, (Invited), The fifth International Colloquium 'Physics of Materials' - PM-5, November 10-11, 2016. Bucharest, Romania, 2016.

**E25.** Petrescu Andrei, Bobei Andreea-Rodica, Iordache Dan Alexandru, Study of some complex materials. Applications, The fifth International Colloquium 'Physics of Materials' - PM-5, November 10-11, 2016. Bucharest, Romania, 2016.

**1.05.2019**

**sef de lucrari dr. ANDREEA RODICA BOBEI**