

LISTA DE LUCRARI PUBLICATE IN ULTIMII 10 ANI

Gradul didactic Nume Prenume

S. L. Dr. Constantin NEGUȚU

A. TEZA DE DOCTORAT

Denumirea tezei, *Cercetări privind interacția radiației laser cu substanța: durificarea suprafeței materialului, analiza și controlul în timp real a adâncimii de pătrundere a radiației în materialele metalice*

Domeniul tezei, *Inginerie Electronică și telecomunicații, Domeniul Fizică Tehnică*

Instituitia la care a fost obtinuta, *Universitatea Politehnica din București*

Anul 2006

B. ARTICOLE ȘI COMUNICĂRI

Ba. Articole publicate în reviste de specialitate

1. M. Stafe, C. Neguțu, I.M.Popescu, “*Combined experimental and theoretical experimental investigation of multiple-nanosecond laser ablation of metals*”, J.Optoelectron. Adv. M., **8**, pp. 1180—1186, (2006).

2. M. Stafe, C. Neguțu, I. M. Popescu, *Real time determination and control of the laser – drilled holes depth*, Shock Waves, **14**, pp. 123-126, (2005).

3. M. Stafe, C. Neguțu, and I. M. Popescu, “*Theoretical determination of the ablation rate of metals in multiple-nanosecond laser pulses irradiation regime*”, Applied Surface Science, **253**, pp. 6353-6358 (2007).

4. M. Stafe, I. Vladoiu, C. Negutu, I. M. Popescu, *Experimental investigation of the nanosecond laser ablation rate of aluminum*, Romanian Reports in Physics, Vol. **60**, No. 3, pp. 789–796, (2008).

5. I. Vlădoiu, M. Stafe, C. Neguțu, I. M. Popescu, *The dependence of the ablation rate of metals on nanosecond laser fluence and wavelength* „Journal of Optoelectronics and Advanced Materials”, Vol. 10, pp. 3177-3181, (2008).

6. C. Negutu, M. Stafe, S. S. Ciobanu, I. Vladoiu, N. N. Puscas, *Spectroscopic study of the plasmas generated by nanosecond laser ablation of Al and Cu targets*, University “Politehnica” of Bucharest, Scientific Bulletin, Series A: Applied Mathematics and Physics, Vol. **70**, No. 3, pp. 85-91, (2008).

7. Vladoiu, M. Stafe, C. Negutu, I. M. Popescu, *Nanopulsed ablation rate dependence of the laser fluence and wavelength in atmospheric air*, University “Politehnica” of Bucharest, Scientific Bulletin, Series A: Applied Mathematics and Physics, Vol. **70**, No. 4, pp. 119-126, (2008).

8. I. Vlădoiu, M. Stafe, C. Neguțu, I. M. Popescu, *Influence of the pulses number and laser fluence on the ablation rate of a metallic, semiconductor and dielectric material*, Eur. Phys. J. Appl. Phys. **47**, art. no. 30702 (2009).

9. M. Stafe, I. Vladoiu, C. Negutu, A. Ducariu, I.M. Popescu, ‘*Experimental investigation of the dimensions and quality of the laser-drilled holes in metals*’, 2009 Proceedings of SPIE, The International Society for Optical Engineering 7426, art. no. 742614, (2009).

10. N. N. Puscas, S. S. Ciobanu, C. Negutu, M. Stafe, ‘*Modelling of the Er³⁺-doped Ti:LiNbO₃ optical waveguide couplers*, 2009 Proceedings of SPIE, The International Society for Optical Engineering 7426, art. pp. 74690W-74690W-6 (2010).

11. Mihai Stafe, Ionut Vladoiu, Constantin Negutu, Ion M. Popescu, *Experimental investigation of the laser-drilled holes in aluminium*, University “Politehnica” of Bucharest- Scientific Bulletin, Series A: Applied Mathematics and Physics Vol. 71 No. 4, pp.73-80, (2009).

12. M. Stafe, C. Negutu, N. N. Puscas, I. M. Popescu, *Pulsed laser ablation of solids*, Rom. Rep. Phys. Vol. 62 No. 4, pp. 758 – 770, (2010).

13. M. Stafe, C. Negutu, A. N. Ducariu, N. N. Puscas, *A spectroscopic study of the ablation plasma produced on Er³⁺-doped Ti:LiNbO₃*, University “Politehnica” of Bucharest- Scientific Bulletin, Series A: Applied Mathematics and Physics Vol. 73 No. 2, pp. 147-154, (2011)

14. Stafe, M., Negutu, C., Vladoiu, I., Ciobanu, S.S., Savu, B., Puscas, N.N, *Spectroscopic study of the plasmas generated by nanosecond laser ablation of Er³⁺-doped Ti:LiNbO₃ targets*, Proceedings of SPIE, The International Society for Optical Engineering 7469, art. 746907, (2010)

15. Negutu, C., Vladoiu, I., Stafe, M., Rizea A., Puscas N. N. Popescu I. M. Effect of pulse number on the ablation rate of metals in PLA multi-pulse regime, Proceedings of SPIE, The International Society for Optical Engineering 7821, art. 78210G, (2010)

16. M. Stafe, C. Negutu, A. Ducariu, N. N. Puscas, *A spectroscopic study of the ablation plasma produced on Er³⁺-doped Ti:LiNbO₃* University "Politehnica" of Bucharest- Scientific Bulletin, Series A: Applied Mathematics and Physics vol. 73 (2), pp.147-154, (2011).

17. Negutu, C., Stafe, M., Ciobanu S. S., Puscas N. N., *Characterization of the laser-ablation plasmas using optical spectroscopy and opto-acoustic methods*, Journal of Optoelectronics and Advanced Materials, Vol. 13, No. 7, p. 815-823, (2011)

18. Stafe, M., Negutu, C., Ducariu, A., *Pulsed laser ablated craters on aluminium in gaseous and aqueous environments*, Romanian Reports in Physics, Vol. 64 (1), p. 155-162, (2012)

19. Stafe, M., Negutu, C., *Real-time monitoring of the pulsed laser ablation of metals using ablation plasma spectroscopy*, Plasma Chemistry and Plasma Processing, 2012, Vol. 32, No. 3, p 643-653, (2012)

Bb. Lucrari publicate în volumele unor manifestări internaționale

1. M. Stafe, C. Negutu, I. M. Popescu "Combined experimental and theoretical investigation of multiple-nanosecond laser ablation of metals"- Lucrare prezentată la "The 5-th International Conference on Photo-Excited Processes and Applications" în perioada 3-7 septembrie 2006 în Charlottesville, Virginia, USA. (2006)

2. S.S. Ciobanu, C. Negutu, M. Stafe, V. Pais, V. Stancalie, N.N. Puscas, *Spectroscopic studies and kinetic calculations of laser induced aluminum plasma in air*, 35th EUROPEAN PHYSICAL SOCIETY, Conference on Plasma Physics, Hersonissos, Crete, Greece, 9-13 June, PROGRAMME, p. 67, (2008).

3. M. Stafe, I. Vladoiu, C. Negutu, I. M. Popescu, *Effect of Laser Fluence on the Ablation Rate of Metals in the Infrared, Visible, and Ultraviolet Nanosecond Pulses Irradiation Regime* (P130) 27th International Congress on Applications on Lasers & Electro-Optics, October 20-23, 2008, Pechanga Resort & Casino, Temecula, CA, USA. (2008)

4. M. Stafe, C. Negutu, I. Vladoiu, S. S. Ciobanu, B. Savu, N. N. Puscas, 'Spectroscopic study of the plasmas generated by nanosecond laser ablation of Er³⁺-doped Ti:LiNbO₃ targets', Micro- to Nano-Photonics II - ROMOPTO 2009, Sibiu, Romania (Aug. 31-Sept. 3, 2009).

5. N. N. Puscas, S. S. Ciobanu, C. Negutu, M. Stafe, 'Modelling of the Er³⁺-doped Ti:LiNbO₃ optical waveguide couplers', Micro- to Nano-Photonics II - ROMOPTO 2009, Sibiu, Romania (Aug. 31-Sept. 3, 2009).

6 C. Negutu, I. Vladoiu, M. Stafe, A. Rizea, N. N. Puscas, I. M. Popescu, *Effect of pulse number on the ablation rate of metals in PLA multi-pulse regime*, ATOM N (2010).

7. M. Stafe, C. Negutu, S. S. Ciobanu, N. N. Puscas, *Laser-induced breakdown spectroscopy of the Er³⁺-doped Ti:LiNbO₃ target irradiated with IR, VIS and UV nanosecond pulses*, ATOM N (2010).

8. M. Stafe, C. Negutu, I.M. Popescu, *Real-time determination of the hole depth drilled with a pulsed laser*, University "Politehnica" of Bucharest, Scientific Bulletin, Series A: Applied Mathematics and Physics, Vol. 65, No. 1-4, pp. 137-144, (2003).

9. Stafe, M., Negutu, C., Ducariu, A., Puscas, N., N., *A spectroscopic and theoretical study of the laser ablation rate of Al*, ATOM-N, (2012)

C. CARTI

1. Popescu, I. M., Cone, G., Negutu, C., Stafe, M., *Fizică – Fizică moleculară și căldură (Termodinamică și teoria cinetică - moleculară)*, Editura Politehnica Press, București, (2010),

2. Negutu C., *Fizică - Introducere în mecanica cuantică*, Politehnica Press București, (2010).

3. Negutu C., *Mecanică cuantică cu soft specializat*, site-ul Moodle

<http://fsa09.curs.pub.ro/course/view.php?id=33>

4. Negutu C., *Mecanică cuantică cu soft specializat*,

http://www.physics.pub.ro/Cursuri/Constantin_Negutu_Mecanica_cuantica_%282008%29

D. CULEGERI SI INDRUMARE

1. Cone Gabriela, Negutu C., *Mecanica punctului material și a solidului rigid. Teoria relativității restrânse. Probleme cu rezolvări*, Editura Matrix Rom București, (2000),

2. Colectiv *Teste de fizică 2001*, Politehnica Press, București, (2001),

3. Colectiv *Teste de fizică 2002, 2003, 2004, 2005*, Politehnica Press, București,

4. Popescu, I. M., Cone, G., Negutu, C., Stafe, M., *Fizică – Mecanică cuantică, Culegere de probleme*, Editura Politehnica Press, București, (2009),