Životopis

OSOBNI PODATCI

Ime i prezime	**Mladen Petravić**
Titula	Prof.dr.sc., redoviti profesor
Godina i ustanova stjecanja doktorata	1993. Australian National University, Canberra, Australija
E-adresa	mpetravic@phy.uniri.hr
Osobna mrežna stranica	http://www.phy.uniri.hr/index.php?option=com_content&view=article&id=28&Itemid=61
Narodnost i državljanstvo	Hrvat, hrvatsko i australsko

RADNO ISKUSTVO

Datumi (od – do)	2008.→
Ustanova zaposlenja	Odjel za fiziku Sveučilišta u Rijeci i Centar za mikro i nano znanosti i tehnologije
Naziv radnog mjesta	Redoviti profesor fizike, Predstojnik Zavoda za eksperimentalnu i primijenjenu fiziku, Predstojnika Centra za mikro i nano znanosti i tehnologije
Područje rada	Visoko obrazovanje i znanstvena djelatnost
Datumi (od – do)	2006.-2008.
Ustanova zaposlenja	Odsjek za fiziku, Filozofski fakultet Sveučilišta u Rijeci
Naziv radnog mjesta	Redoviti profesor fizike, v.d. Pročelnika Odjela za fiziku
Područje rada	Visoko obrazovanje i znanstvena djelatnost
Datumi (od – do)	1995.-2006.
Ustanova zaposlenja	Department of Electronic Materials Engineering, Australian National University, Canberra, Australija
Naziv radnog mjesta	Voditelj Laboratorija za masenu spektroskopiju
Područje rada	Visoko obrazovanje i znanstvena djelatnost
Datumi (od – do)	1989.-1995.
Ustanova zaposlenja	Department of Electronic Materials Engineering, Australian National University, Canberra, Australija
Naziv radnog mjesta	Doktorski i poslijedoktorski studij
Područje rada	Visoko obrazovanje i znanstvena djelatnost
Datumi (od – do)	1987.-1989.
Ustanova zaposlenja	Institut za fiziku Sveučilišta u Zagrebu
Naziv radnog mjesta	Znanstveni suradnik
Područje rada	Znanstvena djelatnost
Datumi (od – do)	1982.-1987.
Ustanova zaposlenja	Institut za fiziku Sveučilišta u Zagrebu
Naziv radnog mjesta	Znanstveni asistent
Područje rada	Znanstvena djelatnost

ŠKOLOVANJE

Datum	1989.-1993.
Mjesto	Canberra, Australija

Ustanova	Australian National University
Zvanje	PhD (doktorat znanosti)
Datum	1983.-1987.
Mjesto	Zagreb
Ustanova	Prirodoslovno-matematički fakultet Sveučilišta u Zagrebu
Zvanje	Mr.sc. (magisterij znanosti)
Datum	1975.-1981.
Mjesto	Zagreb
Ustanova	Prirodoslovno-matematički fakultet Sveučilišta u Zagrebu
Zvanje	Dipl.ing. fizike
Datum	1971.-1975.
Mjesto	Zagreb
Ustanova	III opća gimnazija
Zvanje	Matura

USAVRŠAVANJE

Godina	1989.-2012.
Mjesto	Canberra, Australija
Ustanova	Department of Electronic Materials Engineering, Australian National University
Područje	Prirodne znanosti
Godina	2002.-2005.
Mjesto	Chicago, SAD
Ustanova	Argonne National Laboratory
Područje	Prirodne znanosti

JEZICI

MATERINSKI JEZIK	hrvatski
ENGLESKI JEZIK	
Govori	da, iskusni korisnik
Piše	da, iskusni korisnik
Čita	da, iskusni korisnik

ZNANSTVENI I DRUGI PROJEKTI

2012. HRZZ znanstveni projekt (3 godine) "Visokoprotočne analitičke platforme za kontrolu kvalitete i provjeru izvornosti hrane iz jadranskog područja", suradnik na projektu, voditelj dijela projekta koji je osmislio CMNZT
2007. MZOŠ znanstveni projekt (5 godina) "Istraživanje defekata u složenim poluvodičkim spojevima", voditelj projekta
2007. MZOŠ projekt za nabavu kapitalne opreme "Osnivanje Laboratorija za fiziku površina i materijala", voditelj projekta
2007. NZZ projekt "Osnivanje Laboratorija za površinsku fiziku i materijala", voditelj projekta
2007. MZOŠ znanstveni projekt (5 godina) "Nanomagneti", suradnik na projektu
2002. Australian Research Council, Discovery Grant (3 godine) "Nanocavities and Nanoparticles in Silicon-based Materials Tailored by Ion Implantation", ko-voditelj projekta
2001. La Trobe University, Central Large Grant (1 godina) "Selective Photon-Stimulated Desorption of Impurities from Compound Semiconductor Surfaces", voditelj projekta
1999. Australian Research Council, Research and Infrastructure Grant (1 godina) "Surface Analysis Using a Free Electron Laser", suradnik na projektu
1994. Australian Research Council, Large Grant (3 godine) "Electron Stimulated Desorption of Hydrogen and Impurities from GaAs Surfaces", voditelj projekta
1992. Australian Research Council, Australian Postdoctoral Research Fellowship (3 godine) "Electron Stimulated Desorption from Semiconductor Surfaces", voditelj projekta
1999.-2004. Australian Nuclear Science and Technology Organisation, Access to Major Research Facilities, (jednokratni, jedan do dva projekta svake godine) znanstveno-istraživački projekti za eksperimente na sinkrotronima na Tajvanu, Koreji, SAD-u, Francuskoj, Japanu i Italiji, voditelj svih projekata
1994.-1998. Department of Industry, Technology and Regional Development, Australia, Access to Major Research

Facilities, (jednokratni, jedan do dva projekta svake godine) znanstveno-istraživački projekti za eksperimente na sinkrotronima na Tajvanu, Koreji, SAD-u, Francuskoj, Japanu i Italiji, voditelj svih projekata

NASTAVNA DJELATNOST

Voditelj diplomskg studija Inženjerstvo i fizika materijala
2010-2012. Nositelj kolegija Fizika na dodiplomskom studiju Biotehnologije Sveučilišta u Rijeci
2010/11. Nositelj kolegija Fizika čvrstoga stanja na diplomskom studiju Inženjerstvo i fizika materijala Sveučilišta u Rijeci
2011/12. Nositelj kolegija Fizika poluvodiča na diplomskom studiju Inženjerstvo i fizika materijala Sveučilišta u Rijeci
2011. Nositelj kolegija Fizika II na dodiplomskom studiju Fizike Sveučilišta u Rijeci
2010. Nositelj kolegija Biofizika na dodiplomskom studiju Sanitarnog inženjerstva Sveučilišta u Rijeci
2009.-2011. Nositelj kolegija Seminar iz fizike na diplomskom studiju Fizike Sveučilišta u Rijeci
2006-2012. Nositelj kolegija Mjerenja u fizici na dodiplomskom studiju Fizike Sveučilišta u Rijeci
2006.-2008. Nositelj kolegija Fizika I i II na dodiplomskom studiju Informatike Sveučilišta u Rijeci
2006.-2008. Nositelj kolegija Fizika I i II na dodiplomskom studiju Politehnike Sveučilišta u Rijeci

MENTORSTVO OBRANJENIH DOKTORSKIH DISERATCIJA I MAGISTARSKIH RADOVA I PODIZANJE ZNANSTVENOGA POMLATKA

-Prakash N.K. Deenapanray, "Atomic Relocation Processes in Semiconductor Materials", PhD Thesis, 2000.
-Babak Mohadjeri, "Ion Beam Modification and Characterization of Metal-Silicon Structures", PhD Thesis, 1995.
-Ivna Kavre, "Sinkrotronsko zračenje i njegova primjena u ispitivanju borovog nitrida", Diplomski rad, 2010.
-Robert Peter, znanstveni asistent na projektu MZOŠ-a od 2008.
-Marijana Varašanec, znanstveni novak na projektu MZOŠ-a od 2012.
-Željka Peršurić, znanstveni asistent na projektu HRZZ-a od 2012.
-Tihana Čižmar, "Spektroskopija fotoelektrona rendgenskim zrakama: principi i primjene", Diplomski rad, 2012.

GOSTOVANJE NA STRANIM ZNANSTVENIM USTANOVAMA

2006.-2012. Visiting Fellow, Australsko Nacionalno Sveučilište, Canberra, Australija
2010.-2012. Deakin University, Melbourne, Australija
2002.-2005. Argonne National Laboratory, Chicago, SAD
1999.-2010. National Synchrotron Radiation Research Centre, Hsinchu, Tajvan
2000.-2003. Pohang Accelerator Laboratory, Pohang, Južna Koreja
1998. Osaka National Research Institute, Osaka, Japan
1997. The Royal Institute of Technology, Stockholm, Švedska
1996.-1999. LURE i Universite de Paris Sud, Orsay, Francuska
1994. Technion, Haifa, Izrael

NAGRADE I PRIZNANJA

1989. Poslijediplomska stipendija australskoga Commonwealtha za doktorske studije u Australiji
1991. Poslijediplomska stipendija australske vlade za doktorske studije u Australiji
1992. Poslijedoktorska stipendija Australskog vijeća za znanstvena istraživanja (Australian Research Council) za poslijedoktorsko usavršavanje
1995. Orden hrvatskog pletera za doprinos razvoju hrvatske diplomatske službe u svijetu
1999. Zahvalnica i povelja prve ministrice Teritorija australskoga glavnoga grada za doprinos multikulturnoj politici Australije i rad u hrvatskoj zajednici
2001. Justice of the Peace (mirovni sudac) za Teritorij australskoga glavnoga grada, Canberra, Australija

ORGANIZACIJSKE VJEŠTINE I KOMPETENCIJE

2007. Suorganizator i kopredsjedatelj, član Programskoga odbora, Prva ljetna škola sinkrotronskog zračenja, SynCro'07, Rijeka, Hrvatska
2004. Član Organizacijskog odbora, First Australian Synchrotron Summer School, Canberra, Australija
2001. Član Organizacijskog odbora i Programskog odbora, 15th International Conference on Ion Beam Analysis, Cairns, Australija
2000. Član Organizacijskog odbora i Programskog odbora, 16th Australian Conference on Electron Microscopy, Canberra, Australija
1997. Član Organizacijskog odbora i voditelj sekcije, 11th International Conference on Secondary Ion Mass Spectrometry, Orlando FL, SAD
1997. Član Organizacijskog odbora, 4th Vacuum Society of Australia Congress, Canberra, Australija
1995. Član organizacijskog odbora i Programskog odbora, 11th International Conference on Ion Beam Modification of Materials, Canberra, Australija

ČLANSTVA U ZNANSTVENIM ORGANIZACIJAMA I TIJELIMA

(KRONOLOŠKI; DOMAĆE I MEĐUNARODNE ORGANIZACIJE I TIJELA)

1996.- FAIP (Fellow, Australian Institute of Physics)
1992.- Član, Vakuumsko društvo Australije
1982.- Član, Hrvatsko fizikalno društvo
2006.- Član, Hrvatsko vakuumsko društvo

POVJERENSTVA, ODBORI I RADNE SKUPINE

2006. Predstavnik Republike Hrvatske u povjerenstvu Europske komisije za Mobilnost znanstvenika
2007. Član Povjerenstva Republike Hrvatske za praćenje FP7 Euratom
2007. Član Senata Sveučilišta u Rijeci
2007. Član Sveučilišnog savjeta Sveučilišta u Rijeci iz znanstvenih područja tehničkih i prirodnih znanosti
2007. Član Savjeta za znanstveni rad Sveučlišta u Rijeci
2009.- Član Matičnog odbora iz znanstvenog polja fizike
2012.- Član MZOS Povjerenstva za znanstvenu infrastrukturu

ZNANSTVENI RADOVI

Objavio 120 znanstvenih radova od kojih je 96 indeksirano u bazi CC časopisa. Radovi u zadnjih pet godina:

1. V.A.Coleman, M.Petravic, K.-J.Kim, B.Kim and G.Li, 'Near-edge X-ray absorption fine-structure studies of GaN under low-energy nitrogen ion bombardment', *Appl.Surf.Sci.* **252**, 3413 (2006).
2. M.Petravic, P.N.K.Deenapanray, V.A.Coleman, K-J.Kim, B.Kim, C.Jagadish, K.Kioke, S.Sasa, M.Inoue and M.Yano, 'Characterisation of nitrogen in ZnO by near-edge x-ray absorption fine structure and core-level photoemission spectroscopies', *Surface Sci.* **600**, L81 (2006).
3. M.Petravic, P.N.K.Deenapanray, M.D.Fraser, A.V.Soldatov, Y.-W.Yang, P.A.Anderson and S.M.Durbin, 'Direct observation of defect levels in InN by soft x-ray absorption', *J.Phys.Chem.* **B110**, 2984 (2006).
4. M.Petravic, Q.Gao, D.Llewellyn, P.N.K.Deenapanray, D.Macdonald and C.Crotti, 'Broadening of vibrational levels in x-ray absorption spectroscopy of molecular nitrogen in compound semiconductors', *Chem.Phys.Lett.* **425**, 262 (2006).
5. P.L.Gareso, M.Buda, M.Petravic, H.H.Tan and C.Jagadish, 'Effect of rapid thermal annealing on the atomic intermixing of Zn- and C-doped InGaAs/AlGaAs quantum well', *J.Electrochem.Soc.* **153**, G879 (2006).
6. A.V.Soldatov, A.Guda, A.Kravtsova, M.Petravic, P.N.K.Deenapanray, M.D.Fraser, Y.-W.Yang, P.A.Anderson and S.M.Durbin, 'Nitrogen defect levels in InN: XANES study', *Rad. Phys. Chem.* **75**, 1635 (2006).
7. J.Yu, Y.Chen, R.G.Elliman and M.Petravic, 'Isotropically enriched ^{10}BN nanotubes', *Advanced Materials* **18**, 2157 (2006).
8. A.Bozanic, Z.Majlinger, M.Petravic, Q.Gao, D.Llewellyn, C.Crotti, and Y.-W.Yang, 'Characterisation of molecular nitrogen in III-V compound semiconductors by near-edge X-ray absorption fine structure and photoemission spectroscopies', *J.Vac.Sci.Technol.* **A26**, 592 (2008).
9. Z.Majlinger, A.Bozanic, M.Petravic, K.-J.Kim, B.Kim and Y.-W.Yang, 'Formation of nitrides on nitrogen-bombarded GaAs surfaces', *J.Appl.Phys.* **104**, 063527 (2008).
10. A.Bozanic, M.Petravic, L.-J.Fan, Y.-W.Yang, and Y.Chen, 'Direct observation of defect levels in hexagonal BN by soft x-ray absorption spectroscopy', *Chem.Phys.Lett.* **472**, 190 (2009).
11. Z.Majlinger, A.Bozanic, M.Petravic, K.-J.Kim, B.Kim and Y.-W.Yang, 'NEXAFS and XPS study of GaN formation on ion-bombarded GaAs surfaces', *Vacuum* **84**, 41 (2009).
12. A.Bozanic, Z.Majlinger, M.Petravic, Q.Gao, D.Llewellyn, C.Crotti, Y.-W.Yang, K.-J.Kim and B.Kim 'Characterisation of molecular nitrogen in ion-bombarded compound semiconductors by synchrotron-based absorption and emission spectroscopies', *Vacuum* **84**, 37 (2009).
13. R.Peter, A.Bozanic, M.Petravic, Y.Chen, L.-J.Fan, and Y.-W.Yang, 'Creation of defects in hexagonal boron nitride by low energy ion bombardment', *J.Appl.Phys.* **106**, 083523 (2009).
14. M.Petravic, Z.Majlinger, A.Bozanic, Y.-W.Yang, Q.Gao, and C.Crotti, 'Characterisation of nitrogen-related defects in compound semiconductors by near-edge x-ray absorption fine structure measurements', "Proceedings of 2008 Conference on Optoelectronic and Microelectronic Materials and Devices, COMMAD'08", L.Faraone et all., Eds. (IEEE, New York, 2009) p.98.
15. M.Petravic, R.Peter, L.-J.Fan, Y.-W.Yang, and Y.Chen, 'Direct observation of defects in hexagonal boron nitride by near-edge X-ray absorption fine structure and X-ray photoemission spectroscopy', *Nucl.Instrum.Meth.* **A 619**, 94 (2010).
16. M.Petravic, R.Peter, I.Kavre, L.Li, Y.Chen, L.-J.Fan, and Y.-W.Yang 'Decoration of nitrogen vacancies by oxygen atoms in boron nitride nanotubes', *PhysChemChemPhys* **12**, 15349 (2010).
17. M.Petravic, R.Peter, I.Kavre, L.Li, Y.Chen, L.-J.Fan and Y.-W.Yang, 'Decoration of nitrogen vacancies by oxygen atoms in boron nitride nanotubes', "Proceedings of 2010 Conference on Optoelectronic and Microelectronic Materials and Devices, COMMAD 2010", H.Tan, Ed. (IEEE, 2010) p.217.
18. L.H.Li, Y.Chen, G.Behan, H.Zhang, M.Petravic, and A.M.Glushenkov, 'Large-scale mechanical peeling of boron nitride nanosheets by low-energy ball milling', *J.Mater.Chem.* 21, 11862 (2011).
19. R.Peter, D.Segota, and M.Petravic, 'Point defects in gallium nitride: x-ray absorption measurements and multiple

scattering theory', *Appl.Phys.Lett*. **99**, 172107 (2011).

20. D.Ivekovic, H.Vlasic Trbic, R.Peter, M.Petravic, M.Ceh, and B.Pihlar, ' Enhancement of stability of Prussian blue thin films by electrochemical insertion of Ni^{2+} ions: A stable electrocatalytic sensing of H_2O_2 in mild alkaline media', *Electrochim.Acta* **78**, 452 (2012).,
21. Z. Grubac, I. Skugor Roncevic, M. Metikos-Hukovic, R. Babic, M. Petravic, and R. Peter, 'Surface modification of biodegradable magnesium alloys', *J.Electrochem.Soc.* **159**, (2012).
22. Z.Petrovic, M.Metikos Hukovic, R.Peter, and M.Petravic 'Surface Modification of Iron for Corrosion Protection: Kinetics of Anodic Film Formation and Electroreduction', prihvaćeno, u tisku, Int.J.Electrochem.Sci. (2012).

DRUGE ZNANSTVENE AKTIVNOSTI

12 plenarnih i pozvanih predavanja na međunarodnim znanstvenim skupovima:

1. 13th International Conference on the Science and Application of Nanotubes, Brisbane, Australija, 2012., pozvano predavanje
2. Conference on Optoelectronic and Microelectronic Materials and Devices, COMMAD'10, Canberra, Australija, 2010., pozvano predavanje
3. Conference on Optoelectronic and Microelectronic Materials and Devices, COMMAD'08, Canberra, Australija, 2008., pozvano predavanje
4. 11th Joint Vacuum Conference (JVC-11), Prag, Češka, 2006., plenarno predavanje
5. 2nd Italian-Australian Workshop on Future Directions in Spectroscopy and Imaging with Synchrotron Radiation, Trst, Italija, 2005., plenarno predavanje
6. 3rd Australian Synchrotron Users Meeting and 1st Synchrotron Soft X-ray Workshop, Melbourne, Australija, 2002., pozvano predavanje
7. 13th International Conference on Secondary Ion Mass Spectrometry, Nara, Japan, 2001., pozvano predavanje
8. 199th Meeting of The Electrochemical Society - 6th International Symposium on Silicon Nitride and Silicon Oxide Thin Insulating Films, Washington DC, SAD, 2001., pozvano predavanje
9. 22nd International Conference on Photonic, Electronic and Atomic Collisions, ICPEAC 2001, Santa Fe NM, SAD, 2001., pozvano predavanje
10. APEC Workshop on Surface Analysis of New Materials, Taejon, Koreja, 2000., plenarno predavanje
11. 11th International Conference on Secondary Ion Mass Spectrometry SIMS-XI, Orlando, SAD, 1997., pozvano predavanje
12. 10th Australian Conferences on Nuclear Techniques of Analysis, Canberra, Australija, 1997. pozvano predavanje
13. 9th National School and Conference, Australian X-Ray Analytical Association-93, Brisbane, Australija, 1993., pozvano predavanje

POZNAVANJE RADA NA RAČUNALU

Iskustvo i vješta uporaba operativnih sustava Windows i Mac OS i niza programa za grafičko prikazivanje i obradu podataka.

OSTALE VAŽNE VJEŠTINE I KOMPETENCIJE

Eksperimentalni fizičar s operativnim iskustvom u nizu analitičkih tehnika (SIMS, RBS, XPS, NEXAFS, XTEM, sinkrotronsko zračenje) i procesa u poluvodičkoj tehnologiji (poput ionske implantacije ili narastanja tankih filmova).

DODATNI PODATCI I NAPOMENE

Bogato iskustvo u vrednovanju i znanstvenoj recenziji znanstvenih projekta MZOŠ-a, NZZ-a, Australian Research Council-a i Australskog sinkrotrona iz područja prirodnih i multidisciplinarnih znanosti. Iskusan recenzent znanstvenih radova za međunarodne znanstvene časopise i međunarodne znanstvene skupove (IBMM-IX konferencija, Canberra, Australia, 1995; SIMS-XI konferencija, Orlando, USA, 1997; i VUV-XIV konferencija, Cairns, Australia, 2004, te od 1995-2012 recenzent za CC časopise Nuclear Instruments and Methods B, Journal of Applied Physics, Applied Physics Letters, Journal of Physical Chemistry B, Vacuum, Applied Surface Science, ACS Nano, Nanoletters i Advanced Funcional Materials).

Znanstveni radovi:

i) Poglavlja u knjigama

1. B.V.King, M.A.Sobhan and M.Petravic, 'Ion beam mixing in metals', in "Surface Science, Principles and Current Applications" (Springer-Verlag, Berlin 1996) p.127.

ii) Znanstvene publikacije u CC časopisima

1. M.Petravic, A.Hamzic, B.Leontic and L.Forro, 'Temperature dependence of the Hall effect in $La_{2-x}Sr_xCuO_4$ and $ABa_2Cu_3O_7$ (A=Y,Gd) high temperature superconductors', *International Journal of Modern Physics* **B1**, 1067 (1987).

2. M.Petravic, E.Tutis, A.Hamzic and L.Forro, 'Hall effect measurements in $La_{2-x}Sr_xCuO_4$', *Solid State Commun.* **65**, 573 (1988).

3. L.Forro, M.Petravic and B.Leontic, 'Hall effect of the high T_c superconductors Y-Ba-Cu-O and Gd-Ba-Cu-O', *Solid State Commun.* **65**, 1355 (1988).

4. J.R.Cooper, M.Petravic D.Drobac, B.Korin, N.Brnicevic, M.Paljevic and G.Collin, 'Low temperature AC susceptibility of ytrium barium copper oxide single crystals: attempts to measure the superconducting penetration depth', *Physica* **C153-155**, 1491 (1988).

5. M.Petravic, L.Forro, J.R.Cooper and F.Levy, 'Hall effect in the charge density wave system $(NbSe_4)_{10/3}I$', *Phys.Rev.* **B40**, 2885 (1989).

6. M.Petravic, L.Forro, J.R.Cooper and F.Levy, 'High-pressure study of a charge density wave compound $(NbSe_4)_{10/3}I$', *Phys.Rev.* **B40**, 8064 (1989).

7. M.C.Ridgway, R.G.Elliman, M.Petravic, R.P.Thornton and J.S.Williams, 'The influence of implanted impurities on the termally-induced epitaxial recrystallization of $CoSi_2$', *J.Mat.Res.* **6**, 1035 (1991).

8. M.Petravic and J.S.Williams, 'Ion-induced noncollisional ejection of positive secondary ions', *Surf.Sci.* **259**, 215 (1991).

9. M.Petravic and J.S.Williams, 'Core ionization and ion ejection during SIMS analysis', *Nucl.Instrum.Meth.* **B64**, 659 (1992).

10. J.S.Williams, M.Petravic, Y.H.Li, J.A.Davies and G.Palmer, 'Precipitation and segregation of Sb at Si-SiO_2 interfaces during thermal oxidation', *Nucl. Instrum.Meth.* **B64**, 156 (1992).

11. L.Claphman, J.L.Whitton, M.C.Ridgway, N.Hauser and M. Petravic, 'High-dose, heavy-ion implantation into metals-the use of a sacrificial carbon surface layer for increased dose retention, *J.Appl.Phys.* **72**, 4014 (1992).

12. M.Petravic, B.G.Svensson and J.S.Williams, 'On the estimation of depth resolution during sputter profiling', *Appl.Phys.Lett.* **62**, 278, (1993).

13. J.S.Williams, R.G.Elliman, M.C.Ridgway, C.Jagadish, S.L.Ellingboe, R.Goldberg, M. Petravic, W.C.Wong, Z.Dezhang, E.Nygren and B.G.Svensson, 'MeV implantation into semiconductors', *Nucl.Instrum.Meth.* **B80/81**, 507 (1993).

14. B.G.Svensson, M.C.Ridgway and M. Petravic, 'Isotope effect for mega-electronvolt boron ions in amorphous silicon', *J.Appl.Phys.* **73**, 4836 (1993).

15. M. Petravic, J.S.Williams, and C.W.Wong, 'Electron stimulated desorption of positive and negative ions from SiO_2/Si surfaces', *Nucl.Instrum.Meth.* **B67**, 333 (1993).

16. S.Prawer, A.Hoffman, M. Petravic and R.Kalish, 'Conductivity in insulators due to implantation of conducting species', *J.Appl.Phys.* **73**, 3841 (1993).

17. M.Petravic, 'Desorption of positive and negative ions from SiO_2/Si surfaces by electron excitation of core levels', *Phys.Rev.* **B48**, 2627 (1993).

18. C.Jagadish, A.Clark, G.Li, C.A.Larsen, N.Hauser, M.Petravic, T.D.Thompson, T.Halstead and J.S.Williams, 'Characterization of III-V Multilayers Grown by Low-Pressure Metal Organic Vapour phase Epitaxy', *Aust.J.Phys.* **46**, 435 (1993).

19. J.S.Williams, R.D.Goldberg, M.Petravic and Z.Rao, 'Phase transformations and compound formation during ion irradiation of materials', *Nucl.Instrum.Meth.* **B84**, 199 (1994).

20. M.Petravic, 'Depth resolution during sputter profiling of Si in GaAs', *Nucl.Instrum.Meth.* **B85**, 388 (1994).

21. B.G.Svensson, M.Linnarsson, B.Mohadjeri, M. Petravic and J.S.Williams, 'SIMS and depth profiling of semiconductor structures', *Nucl.Instrum.Meth.* **B85**, 363 (1994).

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