PERSONAL INFORMATION

Nikolay Ivanov Djourelov



+40374676410(ext.5406)

nikolay.djourelov@eli-np.ro

Sex Male | Date of birth | Nationality Bulgarian

WORK EXPERIENCE

Sept.2021-present	**Senior researcher II degree, Dr. Habil.**	
	ELI-NP/ IFIN-HH, Magurele-Bucharest	
	Responsible for the positron source TDR and its implementation	
Sept.2015-Sept.2021	**Senior researcher II degree**	
	ELI-NP/ IFIN-HH, Magurele-Bucharest	
	▪ Responsible for the positron source TDR and its implementation	▪
July.2014-Sept.2015	**Senior research III degree**	
	ELI-NP/ IFIN-HH, Magurele-Bucharest, Romania	
	▪ Responsible for the positron source TDR	▪
Sept.2007-July.2014	**Associate professor**	
	INRNE-BAS, Sofia, Bulgaria	
	▪ Materials research with Positron spectroscopy and Slow positron beam	▪
Sept.2006-Sept.2007	**Invited reasearcher (CNRS)**	
	LMOPS, University of Savoie, France	
	▪ Build positron laboratory	▪
Sept.2005-Sept.2006	**Postdoctoral fellow (FEDRA)**	
	Ghent University, Ghent, Belgium	
	▪ Materials research with positron spectroscopy and slow positron beam	▪
Sept.2004-Sept.2005	**Associate professor**	
	INRNE-BAS, Sofia, BulgariaELI-NP/ IFIN-HH,	

	Magurele-Bucharest	
	▪ Materials research with Positron spectroscopy	▪
Sept.2002-Sept.2004	Postdoctoral fellow (JSPS)	
	High Energy Accelerator Research Organization (KEK), Tsukuba, Japan	
	▪ Materials research with positron spectroscopy and slow positron beam	▪
2001-Sept.2002	Assistant professor	
	LMOPS, University of Savoie, France	
	▪ Materials research with positron spectroscopy	▪
1997-2001	Researcher I degree	
	INRNE-BAS, Sofia, Bulgaria	
	▪ Materials research with positron spectroscopy, computer simullation of nuclear reactor fuel	▪
1997-2001	Physicist	
	INRNE-BAS, Sofia, Bulgaria	
	▪ Materials research with positron spectroscopy	▪

EDUCATION AND TRAINING

1993-1996 **PhD**

Sofia State University, Sofia, Bulgaria

▪ Application of positron annihilation methods for studying defects in thin solid films, sol-gels and superconductors

1987-1992 **Master**

Sofia State University, Sofia, Bulgaria

▪ specialization in solid body physics

PERSONAL SKILLS

Mother tongue(s): Bulgarian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Russian	C1	C1	B2	B2	A2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Communication skills

- good communication skills gained through my work as researcher with a long international experience

Organisational / managerial skills

- leadership (currently responsible for a team of 3 people)
- advising people (scintific supervisor of PhD students)
- decision making skills

Job-related skills

- ability to work under pressure
- assembling equipment
- calculating data
- technical work
- supporting others

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Proficient user	Proficient user	Independent user	Proficient user

Levels: Basic user - Independent user -
Digital competences - Self-assessment grid

- good command of office suite (word processor, spread sheet, presentation software)
- good command of physics simulation softwares (GEANT4, COMSOL) gained as an researcher
- good command of MATLAB, LABVIEW gained as an researcher

ADDITIONAL INFORMATION

Publications	> 110 in reffered international journals
Presentations	> 40
Projects	11
Conferences	> 30
Citations	> 1500
H-index (Scopus)	15

ANNEXES

ARTICLES IN REFERED JOURNALS/BOOKS

1. N.Nancheva, P.Docheva, N.Feschiev, M.Misheva and N.Djourelov, Defects in sputter-deposited aluminium films, studied by X-ray diffraction and positron annihilation, Scripta Metalurgica et Materialia, 33 (1995) 575-581.
2. M.Misheva, N.Djourelov, Tzv.Kotlarova, D.Elenkov and G.Passage, Study of as-grown defects in thin titanium films by positron annihilation spectroscopy, Balkan Physics Letters, 3 (1995) 83-86.
3. M.Misheva, N.Djourelov, F.M.A.Margaca, I.M.Miranda Salvado and G.Passage, A study of free-volume

hole distributions in xTiO2.(1-x)SiO2 by positron annihilation spectroscopy, J.Phys.:Conds.Matter 8 (1996) 6313-6321.
4. N.Djourelov and M.Misheva, Source correction in positron annihilation lifetime spectroscopy, J.Phys.: Condens.Matter 8 (1996) 2081-2087.
5. M.Misheva, N.Djourelov, Tzv.Kotlarova, D.Elenkov and G.Passage, Study of defects in thin titanium films by positron annihilation spectroscopy, Thin Solid Films 283 (1996) 26-29.
6. N.Nancheva, N.Feshiev, D.Tzaneva, M.Misheva and N.Djourelov, Positron trapping at defects in Y-Ba-Cu-O, La-Nd-Ba-Cu-O and La-Nd-Pb-Cu-O superconductors, J. of Materials Processing Tech. 68 (1997) 8-12.
7. N.Nancheva, N.Feschiev, M.Misheva, N.Djourelov, Tz.Kotlarova and D.Elenkov, Defects in sputter-deposited titanium films, studied by positron annihilation and X-ray difraction, Nukleonika 42 (1997) 169-174.
8. N.Nancheva, P.Docheva P.Hadjijska, M.Misheva, N.Djourelov and D.Elenkov, Investigation of the effect of oxygen and substrate bias on the defect structure of sputter-deposited SnOx films, Scripta Materialia 37 (1997) 1957-1962.
9. N.Nancheva, P.Docheva, M.Misheva and N.Djourelov, A Study Of Defect Structure Of Sputter-Deposited SnOx Films Using The Doppler Broadening Of The Annihilation Line, Bulg. J. Phys. 25 (1998) 171-176.
10. N.Djourelov, D.Gogova and M.Misheva, Study of thin chemical vapour deposited tungsten oxide films by positron annihilation spectroscopy, Thin Solid Films 347 (1999) 302-306.
11. M.Misheva, M.Mihaylova, N.Djourelov, M.Kresteva, V.Krestev, E.Nedkov, Radiation Positron Annihilation Life-Time Spectroscopy Studies of Irradiated Poly(propylene-co-ethylene)\Poly(ethylene-co vinyl acetate) Blends, Radiation Physics and Chemistry 58 (2000) 39-47.
12. M.Misheva, N.Djourelov, A.Dimitrova, G.Zamfirova, Ultrahigh molecular weight polyethylene free volume hole structure studied by positron annihilation lifetime technique, Macromol. Chem. Phys. 201 (2000) 2348-2353.
13. M.Misheva, N.Djourelov*, F.M.A.Margasa, I.M.Miranda Salvado, Positronium Decay Study of Zirconia-Silica-gels, J. Non-Crystalline Solids 272 (2000) 209-217.
14. M.Misheva, N.Djourelov* and E.T.Nedkov, Gamma Irradiation Effect Upon Positron Annihilation in Ultra High Molecular Weight Poly (Ethylene Oxide), Radiation Physics and Chemistry 62 (2001) 379-385.
15. M.Misheva, N.Djourelov*, F.M.A.Margaca and I.M.Miranda Salvado, Positron Annihilation Spectroscopy Applied On Sol-Gel Prepared SiO2, J.Non Cryst. Sol. 279 (2001) 196-203.
16. M.Misheva, I.Avramova, St.Plachkova and N.Djourelov, Study Of Defects In GeTe and (GeTe)1-X(AgBiTe2)X Solid Solutions By Positrons, Acta Physica Polonica A 99 (2001) 423-428.
17. M.Misheva, N.Djourelov, I.Seganov, Effect Of Annealing On Free-Volume Properties Of Poly(Ethylene Terephthalate) Studied By Positron Annihilation, Acta Physica Polonica A 99 (2001) 429-434.
18. N.Nancheva, P.Docheva, N.Djourelov and M.Balcheva, Positron Study of Cu-Se, In-Se and CuInSe2 Thin Films, Materials Science Forum 363-365 (2001) 147-149.
19. M.Misheva, N.Djourelov, N.Sertova, I.Petkov and T.Deligeorgiev, Study of □-Irradiated Benzothiazole-Dopped Polyvinyl Chloride by Positron Annihilation, Mat.Sci.Forum, 363-365 (2001) 319-321.
20. D.Elenkov, S.Boneva, N.Djourelov, M.Georgieva, S.Georgiev, Verification of the Transuranus-WWER Code Version v1m2j00 By SOFIT and KOLA-3 Data Bases, Part I, DOKL BOLG AKAD NAUK, 54 (2001) 47-52.
21. Nancheva N., P. Docheva, N. Djourelov. Effect of the Substrate Bias on the structural defects in copper films. Известия на СУ – Русе, 2002, No 3, pp. 103-105.
22. N.Nancheva, P.Docheva, N.Djourelov and M.Balcheva, Positron and X-Ray Diffraction Study of In-Se, Cu-Se and Cu-In-Se2, Materials Letters 54 (2002) 169-174.
23. D.Elenkov, S.Boneva, N.Djourelov, M.Georgieva, S.Georgiev, Verification of the Transuranus-WWER Code Version v1m2j00 By SOFIT and KOLA-3 Data Bases, Part II, DOKL BOLG AKAD NAUK, 55 (2002) 27-32.
24. G.Zamfirova, M.Misheva, M.Kresteva, N.Djourelov, R.Benevente, E.Perez, J.M.Perena, Physical Aging of Poly(diethylene glycol-p,p' bibenzoate), Journal of Applied Polymer Science 83 (2002) 2363-2368.
25. G.Zamfirova, M.Misheva, E.Perez, R.Benavente, M.Cerrada, N.Djourelov, M.Kresteva, J.M.Perena, Norbornene-Ethylene Copolymers Studied by Non-Destructive Methods, Polymer Journal 34 (2002) 779-785.
26. N.Djourelov, M.Misheva, G.Zamfirova, R.Benavente, E.Pérez, J.M.Pereña, Positron Annihilation in Norbornene-Ethylene Copolymers, Macromol. Chem. Phys. 204 (2003) 1531-1538.
27. C.He, E.Hamada, N.Djourelov, T.Suzuki, H.Kobayashi, K.Kondo, Y.Ito, Development on a pulsed slow positron beam: Moderator and bunching signal waveform, Nucl. Instr. Meth. B 211 (2003) 571-576.
28. N.Djourelov, C.He, T.Suzuki, V.P.Shantarovich, Y.Ito, K.Kondo, Y.Ito, Positron Annihilation in Polypropylene studied by Lifetime and Coincidence Doppler-Broadening Spectroscopy, Rad. Phys. Chem. 68 (2003) 689-695.

29. V.P.Shantarovich, T.Suzuki, C.He, N.Djourelov, I.B.Kevdina, V.A.Davankov, A.V.Pastukhov, Y. Ito, Positron Annihilation in Polymers with Highly Developed Specific Surface, Materials Science Forum 445-446 (2004) 346-349.
30. N.Djourelov, T.Suzuki, C.He, Y.Ito, K.Velitchkova, E.Hamada, K.Kondo, Carbon-Implanted Polyethylene Characterized by a Pulsed Slow-Positron Beam, Materials Science Forum 445-446 (2004) 280-283.
31. Y.Ito, N.Djourelov, T.Suzuki, K.Kondo, Y.Ito, V,Shantarovich, J.Onoe, Application of coincidence Doppler-broadening spectroscopy to different carbon phases, Materials Science Forum 445-446 (2004) 310-313.
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33. N.Djourelov, T.Goworek, K.Kondo,T.Suzuki, R.Zaleski, Enhancement of positronium formation by trapped electrons in solid n-nonadecane. Light bleaching effect. Physics Letters A 323 (2004) 165-168.
34. C. He, T. Suzuki, V.P.Shantarovich, N.Djourelov, K. Kondo, Y. Ito, Positron annihilation studies of hyper-cross-linked polystyrenes, Chem. Physics 303 (2004) 219-226.
35. N.Djourelov, T.Suzuki, R.S.Yu, V.Shantarovich, K.Kondo, Application of coincidence Doppler broadening spectroscopy to polypropylene and polyethylene: taking into account the positronium formation, Chem. Physics 302 (2004) 179-184.
36. N.Djourelov, T.Suzuki, Y.Ito, V.P.Shantarovich, Y.Ito, K.Kondo, J.Onoe, Application of Coincidence Doppler Broadening Spectroscopy to simple hydrocarbons, Chem. Phys. 298 (2004) 183-187.
37. N.Djourelov, C.He, T.Suzuki, Y.Ito, K.Velitchkova, E.Hamada, K.Kondo, Carbon Implanted Ultra High Molecular Weight Polyethylene Studied by Slow Positron Beam, Nucl. Instr. Meth. B 215 (2004) 83-89.
38. N.Djourelov, T.Suzuki, V.P.Shantarovich, T.Dobreva, Y.Ito, Transitions and Relaxations in Gamma-Irradiated Polypropylene Studied by Positron Annihilation Lifetime Spectroscopy, Rad. Phys. Chem. 72 (2005) 13-18.
39. N.Djourelov, T.Suzuki, M.Misheva, F.M.A.Margaça, I.M.Miranda Salvado. Positron annihilation lifetime study of organic-inorganic hybrid materials prepared by irradiation. J. Non-Crystalline Solids, 351 (2005) 340-345.
40. T.Xu, Y.Bin, N.Djourelov, T.Suzuki, M.Matsuo, Positron annihilation study of density fluctuation of amorphous poly(ethylene terephthalate) films in terms of the quasi-spinodal decomposition, Phys. Rev. B 71 (2005) 075204.
41. R.S.Yu, T.Suzuki, N.Djourelov, K.Kondo, Yasuo Ito, and V.Shantarovich, Positron annihilation lifetime and coincidence Doppler broadening study of □-irradiated polyethylene, Chemical Physics 313 (2005) 63–69. IF/1.934/a/6
42. S.Okamoto,R.S.Yu, N. Djourelov, T.Suzuki, Study on thermal behavior of solution-cast liquid crystalline polymer film by positron annihilation lifetime spectroscopy, Polymer 46 (2005) 6455–6460.
43. N.Djourelov, T.Suzuki, V.Shantarovich, K.Kondo, Positronium formation in sol-gel-prepared silica-based glasses. Temperature and positron-irradiation effect. Rad. Phys. Chem. 72 (2005) 723-729.
44. N.Djourelov, T.Suzuki, Y.Ito, V.Shantarovich, K.Kondo, Gamma and positron irradiation effects on polypropylene studied by coincidence Doppler broadening spectroscopy. Rad. Phys. Chem. 72 (2005) 687-694.
45. N.Djourelov, T.Suzuki, R.S.Yu, Y.Ito, Coincidence Doppler broadening study on hydrocarbons with pi and sigma valence electrons. Positronium correction, Nucl. Instr. Meth. A 540 (2005) 487-494.
46. R.S.Yu, T.Suzuki, Y.Ito, N.Djourelov, K.Kondo, V.Shantarovich, Application of coincidence Doppler broadening spectroscopy to hydrocarbons at different substance states, Acta Physica Polonica A 107 (2005) 697-701.
47. A.Macková, V.Havránek, V.Švorčík, N. Djourelov, T.Suzuki, Degradation of PET, PEEK and PI induced by irradiation with 150 keV Ar+ and 1,76 MeV 4He ions, Nucl.Instr.Meth. B, B 240 (2005) 245–249.
48. V.P. Shantarovich, T. Suzuki, N. Djourelov, A, Shimazu, V.W. Gustov, I.B. Kevdina, Some Aspects of Free Volume Studies in Molecular Substances Using Positronium Annihilation Experiments, Acta Physica Polonica A 107 (2005) 629-634.
49. R.S.Yu, T.Suzuki, Y.Ito, N.Djourelov, K.Kondo, V.Shantarovich, Coincidence Doppler broadening study of polar and nonpolar molecules in liquid and solid states, Chemical Physics Letters 406 (2005) 101–105.
50. B.Ganguly, N.Djourelov, T.Suzuki, S.Kundu, Surface Modification of Mica by Titanium Sputtering and Studied by Positron Annihilation, Applied Radiation and Isotopes 64 (2006) 651–655.
51. R.S.Yu, T.Suzuki, N.Djourelov, Y.Ito, K.Kondo, Study of irradiation effect on positronium formation in polypropylene, Rad. Phys. Chem. 75 (2006) 247–252.
52. C.A. Palacio, N. Djourelov, J. Kuriplach, C. Dauwe, N. Laforest, and D. Segers, Doppler broadening of positron annihilation radiation as a probe for the anisotropy of free-volume-holes in polymers, Phys. Status Solidi (c) 4, 10 (2007) 3755-3758.
53. J. De Baerdemaeker, K. Boussu, N. Djourelov, B. Van der Bruggen, C. Dauwe, M. Weber, K.G. Lynn,

Investigation of nanopores in nanofiltration membranes using slow positron beam techniques, Phys. Status Solidi (c) 4, 10 (2007) 3804-3809.

54. N. Djourelov, C. Dauwe, C. A. Palacio, N. Laforest, C. Bas, On the consistency between positron annihilation lifetime and Doppler broadening results in polypropylene, Phys. Status Solidi (c) 4, 10 (2007) 3710-3713.
55. N. Djourelov, C. Dauwe, C. A. Palacio, N. Laforest, C. Bas, Positron states in polypropylene and polystyrene at low temperature, Phys. Status Solidi (c) 4, 10 (2007) 3743-3746.
56. N. Djourelov, Z. Ateş, O. Güven, M. Misheva, T. Suzuki, Positron Annihilation Lifetime Spectroscopy of Molecularly Imprinted Hydroxyethyl Methacrylate Based Polymers, Polymer 48 (2007) 2692-2699.
57. N. Djourelov, N. Charvin, C. Bas, J. Viret, V. Samoylenko, D. Sillou, Symmetric analog positron lifetime spectrometer utilizing charge-to-digital converters, Nucl. Instr. Meth. B 264 (2007) 165–170.
58. M. Misheva, N. Djourelov*, G. Zamfirova, V. Gaydarov, M. L. Cerrada, V. Rodríguez-Amor, E. Pérez, Effect of compatibilizer and electron irradiation on free-volume and microhardness of syndiotactic polypropylene\clay nanocomposites. Rad.Phys.Chem., 77 (2008) 138 - 145.
59. N.Djourelov, C.A.Palacio, J. De Baerdemaeker, C.Bas, N.Charvin, K.Delendik, G.Drobychev, D. Sillou, O.Voitik, S.Gninenko, A study of positronium formation in anodic alumina, J. Phys.: Condens. Matter 20 (2008) 095206.
60. Kellerbauer, A., Amoretti, M., Belov, A.S., Bonomi, G., Boscolo, I., Brusa, R.S., Bu?chner, M., Byakov, V.M., Cabaret, L., Canali, C., Carraro, C., Castelli, F., Cialdi, S., de Combarieu, M., Comparat, D., Consolati, G., Djourelov, N., Doser, M., Drobychev, G., Dupasquier, A., Ferrari, G., Forget, P., Formaro, L., Gervasini, A., Giammarchi, M.G., Gninenko, S.N., Gribakin, G., Hogan, S.D., Jacquey, M., Lagomarsino, V., Manuzio, G., Mariazzi, S., Matveev, V.A., Meier, J.O., Merkt, F., Nedelec, P., Oberthaler, M.K., Pari, P., Prevedelli, M., Quasso, F., Rotondi, A., Sillou, D., Stepanov, S.V., Stroke, H.H., Testera, G., Tino, G.M., Tre?nec, G., Vairo, A., Vigue?, J., Walters, H., Warring, U., Zavatarelli, S., Zvezhinskij, D.S., Proposed antimatter gravity measurement with an antihydrogen beam (2008) Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms, 266 (2008) pp. 351-356
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