Ignat DOMANOV

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Date of birth: 17 July 1976
Citizenship: Ukraine & Belgian PR (card D)
Marital status: married, three children

Degrees

19 Sep 2013	**PhD in Engineering**, *KU Leuven*, Belgium.
9 June 2004	**PhD in Mathematics and Physics (Mathematical Analysis)**, *IAMM*, Ukraine.
30 June 1998	**Master in Mathematics, Diploma with Honor**, *Donetsk State University*, Ukraine.

Career and studies

Oct 1 2013 30 Sept 2019	**Postdoctoral researcher**, *KU Leuven*, Belgium.
Oct 1 2008 30 Sept 2013	**Pre-doctoral and doctoral student**, *KU Leuven*, Belgium.
1 Sept 2007 30 Sept 2008	**Junior Researcher**, *Institute of Applied Mathematics and Mechanics of NAS of Ukraine*, Ukraine.
1 Oct 2006 31 Aug 2007	**Visiting scientist**, *Institute of Mathematics of the Academy of Sciences of the Czech Republic*, Czech Republic.
1 Aug 2003 30 Sept 2006	**Engineer, Senior Engineer, Junior Researcher**, *Institute of Applied Mathematics and Mechanics of NAS of Ukraine*, Ukraine.

Teaching Experience

2009 – present	**Teaching assistant (assigned teaching duties)**, *KU Leuven, Campus Kortrijk*, Belgium, (System theory, X0B92A).
1 Sept 2004 30 June 2005	**Assistant professor(part time, 1/4)**, *Department of Mathematical Analysis and Function Theory, Donetsk National University*, Ukraine, (Course on functional analysis and measure theory for applied mathematicians).
1 Sept 2002 31 July 2003	**Teaching assistant (full time)**, *Department of Higher and Applied Mathematics, Donetsk National University of Economics and Trade named after M. I.Tugan-Baranovsky*, Ukraine, (Elements of higher mathematics).
2000–2003	**School teacher (part time)**, *General Educational Specialized Sanatorium Boarding Establishment for Talented Children "Erudite", Donetsk*, Ukraine, (Course on Geometry).

Awards and Grants

2013	PostDoc grant PDM-Kort, KU Leuven (1 year)
2008	Scholarship of the President of Ukraine (1 year)
2005	Grant of the National Academy of Sciences of Ukraine 0105U006289 :"The investigation of some properties of integral and differential operators with applications to the general theory of boundary problems" (research group leader, 1 year)
2004	Scholarship of the National Academy of Sciences of Ukraine for young scientists (1 year)
Oct 2004	The Queen Jadwiga Fund Scholarship (Krakow, Poland) (1 month)
2004	Premium in honor of Ya.B. Lopatinskii (IAMM, Ukraine)
2004	The Diploma and Premium of the National Academy of Sciences of Ukraine for young scientists
1999	The Scholarship of the Donetsk region Council for talented pupils, students, and postgraduate students of the Donetsk region (1 year)
1998	The Diploma and Premium of the National Academy of Sciences of Ukraine for students
1998	The diploma of the first degree at the Ukrainian competition of the students scientific works (the competition was held by the Odessa State University)
1996	First prize at student's mathematical olympiad, Donetsk State University
1994	Soros Foundation Fellowship grant N GSU051048

Service

2001–present	**Reviewer for Mathematical Reviews**	*(40+ reviews written)*
2014–present	**Reviewer for Math-Zentralblatt**	
2006–present	**Referee for** IEEE Transactions on Signal Processing, IEEE Journal of Selected Topics in Signal Processing, IEEE Signal Processing Letters, SIAM Journal on Matrix Analysis and Applications, Linear and Multilinear Algebra, Linear Algebra and its Applications, Studia Mathematica, Integral Equations and Operator Theory, Mathematische Nachrichten	

Languages

Ukrainian	**Native language**
Russian	**Native language**
English	**Fluent**
Dutch	**Niveau 4 (2.2)**

Computer Skills

Windows, Linux, LaTeX, Matlab, Python

Coursera Certificates

Machine Learning Oct 2016, License V6XY2F5N5PST

Python Programming for Everybody (Getting Started with Python), May 2016, License N24UP9XV36RB; Python Data Structures, May 2016, License D8H8EUQ3K3PC, Using Python to Access Web Data, Jun 2016, License HJL94REKS2NC; Using Databases with Python, Jun 2016, License GBEU5F5P2UTW; Python for Everybody Specialization,Feb 2017, License YWNLFA4EF5V7; Capstone: Retrieving, Processing, and Visualizing Data with Python,Feb 2017, License 5LVXBZ2CALY3

Publications

Submitted publications

[SP1] I. Domanov, L. De Lathauwer, Decomposition of a tensor into multilinear rank-$(1, L_r, L_r)$ terms, *arXiv:1808.02423*.

Refereed journal publications

[JP1] M. Boussé M., N. Vervliet, I. Domanov, O. Debals, L. De Lathauwer, Linear Systems with a Canonical Polyadic Decomposition Constrained Solution: Algorithms and Applications, *Numer Linear Algebra Appl*, published online (https://doi.org/10.1002/nla.2190), 2018.

[JP2] M. Sørensen, I. Domanov, L. De Lathauwer, Coupled canonical polyadic decompositions and multiple shift-invariance in array processing, *IEEE Transactions on Signal Processing*, 66(14):3665–3680, 2018.

[JP3] I. Domanov, A. Stegeman, and L. De Lathauwer, On the largest multilinear singular values of higher-order tensors, *SIAM J. Matrix Anal. Appl.*, 38(4):1434–1453, 2017.

[JP4] I. Domanov, L. De Lathauwer, Canonical polyadic decomposition of third-order tensors: relaxed uniqueness conditions and algebraic algorithm. *Linear Algebra Appl.*, 513, 342–375, 2017.

[JP5] I. Domanov, L. De Lathauwer, Generic uniqueness of a structured matrix factorization and applications in blind source separation. *IEEE Journal of Selected Topics in Signal Processing*, 10(4):701–711, 2016.

[JP6] L. Sorber, I. Domanov, M. Van Barel, and L. De Lathauwer. Exact line and plane search for tensor optimization. *Computational Optimization and Applications*, 63(1):121–142, 2016.

[JP7] I. Domanov, L. De Lathauwer, Generic uniqueness conditions for the canonical polyadic decomposition and INDSCAL. *SIAM J. Matrix Anal. Appl.*, 36(4):1567–1589, 2015.

[JP8] M. Sørensen, I. Domanov, L. De Lathauwer. Coupled Canonical Polyadic Decompositions and (Coupled) Decompositions in Multilinear rank-$(L_{r,n}, L_{r,n}, 1)$ terms — Part II: Algorithms. *SIAM J. Matrix Anal. Appl.*, 36(3):1015–1045, 2015.

[JP9] I. Domanov, L. De Lathauwer. Canonical polyadic decomposition of third-order tensors: reduction to generalized eigenvalue decomposition. *SIAM J. Matrix Anal. Appl.*, 35(2):636–660, 2014.

[JP10] I. Domanov, L. De Lathauwer. On the uniqueness of the canonical polyadic decomposition of third-order tensors — Part I: Basic results and uniqueness of one factor matrix. *SIAM J. Matrix Anal. Appl.*, 34(3):855–875, 2013.

[JP11] I. Domanov, L. De Lathauwer. On the uniqueness of the canonical polyadic decomposition of third-order tensors — Part II: Overall uniqueness. *SIAM J. Matrix Anal. Appl.*, 34(3):876–903, 2013.

[JP12] I. Domanov. On invariant subspaces of matrices: A new proof of a theorem of Halmos. *Linear Algebra Appl.*, 433(11-12):2255–2256, 2010.

[JP13] I. Domanov, M. M. Malamud. On the Spectral Analysis of Direct Sums of Riemann-Liouville Operators in Sobolev Spaces of Vector Functions. *Integral Equations and Operator Theory*, 63(2):181–215, 2009.

[JP14] I. Domanov. On the spectrum of the operator which is a composition of integration and substitution. *Studia Mathematica*, 185(1):49–65, 2008.

[JP15] I. Domanov. On the spectrum and eigenfunctions of the operator $(Vf)(x) = \int_0^{x^\alpha} f(t)dt$. *Banach Center Publ.*, 75:137–142, 2007.

[JP16] I. Domanov. On cyclic subspaces and the unicellularity of the operator $(V_{q,w}f)(x) = q(x)\int_0^x f(t)w(t)dt$. *Ukrainian Mathematical Bulletin*, 2:177–219, 2004.

[JP17] I. Domanov, V. V. Surovtseva. On the reflexivity of the operator $J_k^\alpha \oplus J_{k+s}^\alpha$. *Reports of the National Academy of Sciences of Ukraine (Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki)*, 9:26–30, 2004.

[JP18] I. Domanov. Spectral Analysis of Powers of the Operator $(V_{q,w}f)(x) = q(x)\int_0^x f(t)w(t)dt$, *Math. Notes*, 73(3-4):408–413, 2003.

[JP19] I. Domanov. On Cyclic Subspaces of the Operator $(V_{q,w}f)(x) = q(x)\int_0^x f(t)w(t)dt$. *Russian Math. Surveys*, 58(1):177–179, 2003.

[JP20] I. Domanov, M. M. Malamud. Invariant and hyperinvariant subspaces of an operator J^α and related operator algebras in sobolev spaces. *Linear Algebra Appl.*, 348(1–3):209–230, 2002.

[JP21] I. Domanov. On the Spectral Multiplicity of Some Volterra Operators in Sobolev Spaces. *Math. Notes*, 72(1-2):275–280, 2002.

[JP22] I. Domanov, M. M. Malamud. On the lattices of Invariant Subspaces and Hyperinvariant Subspaces of the Operator $J^\alpha \otimes B$ in the Sobolev spaces. *Math. Notes*, 70(3-4):508–514, 2001.

[JP23] I. Domanov, M. M. Malamud. Invariant subspaces and hyperinvariant subspaces of an operator J^α defined on Sobolev spaces. *Reports of the National Academy*

of Sciences of Ukraine (Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki)*, 7:37–42, 2001.

[JP24] I. Domanov. On Cyclic and Invariant Subspaces of the Operator $J \otimes B$ in the Sobolev spaces of vector functions. *Methods of Functional Analysis and Topology*, 5(1):1–12, 1999.

[JP25] I. Domanov. On Cyclic and Invariant Subspaces of the Operator $J \otimes B$ in the Sobolev spaces. *Reports of the National Academy of Sciences of Ukraine (Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki)*, 5:20–25, 1999.

Publications in proceedings

[PP1] I. Domanov, L. De Lathauwer. Enhanced Line Search for Blind Channel Identification Based on the Parafac Decomposition of Cumulant Tensors, *in Proc. of the 19th International Symposium on Mathematical Theory of Networks and Systems (MTNS 2010), Budapest, Hungary, Jul. 2010*, pp. 1001–1002.

[PP2] I. Domanov, L. De Lathauwer. Blind Channel Identification of MISO Systems Based on the CP Decomposition of Cumulant Tensors, *in Proc. of the 2011 European Signal Processing Conference (EUSIPCO 2011), Barcelona, Spain, Aug.-Sep. 2011*, pp. 2215–2218.