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List of publications (on English only) 2012-2016

2012

1. *Kmit I, Recke L.* Fredholmness and smooth dependence for linear time- periodic hyperbolic systems // Journal of Differential Equations. - 2012. - Vol. 252, No. 2. - P. 1962-1986.
2. *Kmit I.* On the Fredholm solvability for a class of multidimensional hyperbolic problems // J. Math. Sci. - 2012. - Vol. 185, N 6. - C. 778-791.
3. *Protsakh N.P.* Properties of solutions for mixed problem for ultraparabolic equation with the memory term // Ukr. Math. Bulletin. - 2012. - 9, № 1. - C. 98-113.
4. *Korzhik V.* On the 1-chromatic number of non-orientable surfaces with large genus // Journal of Combinatorial Theory Series B. - 2012. - Vol. 102. - P. 283-328.

2013

5. *Kuz' A. M., Ptashnyk B. I.* A problem with integral conditions with respect to time for Garding hyperbolic equations // Ukr. Math. J. – 2013. – **65**, No. 2. – P. 277–293.
6. *Kuz' A. M., Ptashnyk B. Yo.* A problem with integral conditions with respect to time for a system of equations of the dynamic elasticity theory // J. Math. Sci. – 2015. – 208, No. 3. – P. 310 – 326.).
7. *Ptashnyk B. Yo., Repetylo S. M.* Dirichlet-Neumann problem in a strip for hyperbolic equations with constant coefficients // J. Math. Sci. – 2015. – 205, № 4. – P. 501 – 517.
8. *Ilkiv V.S.* Nonuniqueness conditions for the solutions of the Dirichlet problem in a unit disk in terms of the coefficients of differential equation // Journal of Mathematical Sciences. – 2013. – 194, № 2. – P. 182–197.
9. *Kmit I.* Smoothing effect and Fredholm property for first order hyperbolic PDEs // Operator Theory: Advances and Applications. – Basel: Birkhäuser. – 2013. – Vol. 231. – P. 219–238.
10. *Kmit I.* Fredholm solvability of a periodic Neumann problem for a linear telegraph equation // Ukr. Math. J. – 2013. – **65**, No. 3. – P. 423–434.
11. *Kmit I., Recke L. Tkachenko V.* Robustness of Exponential Dichotomies of Boundary-Value Problems for General First-Order Hyperbolic Systems // Ukr. Math. J. – 2013.– **65**, No. 2. – P. 236–251.
12. *Kmit I., Recke L.* Periodic solutions to dissipative hyperbolic systems. I: Fredholm solvability of linear problems // Preprint of DFG Research Center Matheon 999. – 2013. – 18 pp.
13. *Kmit I., Recke L.* Periodic solutions to dissipative hyperbolic systems. II: Hopf bifurcation for semilinear problems // Preprint of DFG Research Center Matheon 1000. – 2013. – 48 pp.
14. *Korzhik V., Mohar B.* Minimal obstructions for 1-immersions and hardness of 1-planarity testing // Journal of Graph Theory. – 2013. – No. 72. – P. 30–70.
15. *Korzhik V.* Generating nonisomorphic quadrangular embeddings of a complete graph // Journal of Graph Theory. – 2013. – No. 74. – P. 133–142.
16. *Protsakh N.* Inverse problem for an ultraparabolic equation // Tatra Mountains Mathematical Publications. – 2013. – Vol. 54. – P. 133–151.
17. *Sumotyuk M.M., Tymkiv I.R.* Problem with two-point conditions for parabolic equation // Carpathian Mathematical Publications. . 2014.– V. 6, No 2.– P. 351 – 359.
18. *Korzhik V.* Proper 1-immersions of graphs triangulating the plane // Discrete Mathematics. - 2013. - Vol. 313. - P. 2673 - 2686.

2014

19. Kholyavka O. T. Hyperbolic Variational Inequality of the Third Order with Variable Exponent of Nonlinearity // Ukr. Math. J. – 2014. – 66, No 4. – P.580–593.
20. Il'kiv V. S., Nytrebych Z. M. Estimate of the measure of level set for the solutions of differential equations with constant coefficients // Journal of Mathematical Sciences. – 2016. – V. 217, № 2. – P. 166–175).
21. Kuz' A. M. A problem with integral conditions with respect to time for Shilov parabolic systems of equations // J. Math. Sci. – 2016. – 217, No. 2. P. 149–165.
22. Ptashnyk B. Yo and Repetylo S. M. Dirichlet-Neumann problem for systems of hyperbolic equations with constant coefficients // Journal of mathematical Sciences. – 2016. – V. 215, No 1. – P.26-35.
23. I. Kmit and L. Recke. Hopf bifurcation for semilinear dissipative hyperbolic systems // J. Differential Equations 257(1): 264-309 (2014).
24. I. Kmit and L. Recke. Time-periodic second-order hyperbolic equations: Fredholm solvability, regularity, and smooth dependence // Accepted in: Pseudo-Differential Operators, Generalized Functions. Operator Theory: Advances and Applications, 35 pages, Basel: Birkhuser (2014).
25. I. Kmit and L. Recke. Solution regularity and smooth dependence for abstract equations and applications to hyperbolic PDEs // 48 pages (2014), submitted to J. Differential Equations. E-print: <http://arxiv.org/abs/1411.5562>.
26. I. Kmit and L. Recke. Fredholm Alternative and Solution Regularity for Time-Periodic Hyperbolic Systems. Periodic solutions to dissipative hyperbolic systems // 18 pages (2014), submitted to J. of Functional Analysis. E-print: <http://arxiv.org/abs/1108.2882>
27. G. Snitko, On a Coefficient Inverse Problem for a Parabolic Equation in a Domain with Free Boundary // Journal of Mathematical Sciences, July 2014, Vol. 200, Issue 3, pp 374–388.
28. H. Snitko, Determination of the Lowest Coefficient for a One-Dimensional Parabolic Equation in a Domain with Free Boundary // Journal of Mathematical Sciences, April 2014, Vol. 65, Issue 11, pp 1698–1719.
29. H. Snitko, Inverse Problem of Finding Time-Dependent Functions in the Minor Coefficient of a Parabolic Equation in the Domain with Free Boundary // Journal of Mathematical Sciences, November 2014, Vol. 203, Issue 1, pp 40–54.
30. Symotyuk M.M., Tymkiv I.R. Problem with two-point conditions for parabolic equation of second order on time // Carpatian Math. Publ., 2014, Vol. 6, No 2. –P. 340-348.
31. Kuz' A. M., Ptashnyk B. Yo. Problem for hyperbolic system of equations having constant coefficients with integral conditions with respect to the time variable // Carpathian Math. Publ. – 2014. – 6, No. 2. – P. 282 – 299/

2015

32. Il'kiv V. S., Strap N. I. Solvability of a nonlocal boundary-value problem for the operator-differential equations with weak nonlinearity in a refined scale of Sobolev spaces // J. Math. Sci. – 2016. – V.218, № 1. – P. 1–15).
33. Kuz' A. M., Ptashnyk B. I. A problem with condition containing an integral term for a parabolic-hyperbolic equation // Ukr. Math. J. – 2015. – 67, No. 5. – P. 723–734.).

34. *Protsakh N.P.* Inverse Problem for a weakly nonlinear ultraparabolic equation with three unknown functions of different arguments on the right-hand side // Journal of Mathematical Sciences. – 2016. – V. 217, No 4. – P. 476-514.).
35. *I. Kmit and L. Recke.* Time-periodic second-order hyperbolic equations: Fredholm solvability, regularity, and smooth dependence // Oper. Theory Adv. Appl. 245, Basel: Birkh"auser. – 2015. – P. 147-181.
36. *I. Kmit and L. Recke.* Solution regularity and smooth dependence for abstract equations and applications to hyperbolic PDEs // J. Differential Equations 259 (11). – 2015. – P. 6287–6337.
37. *R. Klyuchnyk and I. Kmit.* Fredholm property of nonlocal problems for integro-differential hyperbolic systems // submitted (2015), E-print: <http://arxiv.org/abs/1508.00755>.
38. *I. Kmit and L. Recke.* Fredholm alternative and solution regularity for time-periodic hyperbolic systems // submitted (2015), E-print: <http://arxiv.org/abs/1108.2882>.
39. *Korzhik V.* Nonorientable biembeddings of cyclic Steiner triple systems generated by Scolem sequences // Discrete Mathematics – 2015. – V. 338. – P. 1345-1361.
40. *Korzhik V.* Recursive constructions and nonisomorphic minimal nonorientable embeddings of complete graphs // Discrete Mathematics – 2015. – V. 338. – P. 2186-2196.

2016

41. *Korzhik V.* Auxiliary embeddings and constructing triangular embeddings of joins of complete graphs with edgeless graphs // Discrete Mathematics. – 2016. – V. 339. – P.712-720.
42. *Symotyuk M.M., Medvid O.M.* Convergence of Gauss continued fraction for the ratio of hypergeometric functions in Qp // Precarpathian bulletin of Shevchenko scientific society. Number. – 2016. – № 1. – C. 110–117.
43. *I. Kmit, L. Recke.* Fredholm alternative and solution regularity for time-periodic hyperbolic systems// Differential and Integral Equations. – 2016. – V. 29, No 11/12. – P.1049–1070.
44. *I. Kmit, R. Klyuchny.* Fredholm solvability of time-periodic boundary value hyperbolic problems// J. Math. Anal. Appl. – 2016. – V. 442, N 2 – P. 804–819.
45. *I. Kmit, R. Klyuchnyk.* Fredholm property of nonlocal problems for integro-differential hyperbolic systems// Electron. J. Qual. Theory Differ. Equ. – 2016. –No 96. – P. 1–11.
46. *R. Klyuchnyk, I. Kmit.* Bounded Solutions to Boundary Value Hyperbolic Problems// In print in: Nonlinear Oscillations (2016).
47. *R. Klyuchnyk, I. Kmit, L. Recke.* Exponential Dichotomy for Hyperbolic Systems with Periodic Boundary Conditions//In print in: J. Differential Equations (2016).
48. *I. Kmit, N. Lyul'ko.* Perturbations of superstable linear hyperbolic systems (2016). E-print: <https://arxiv.org/abs/1605.04703>.

Participation in conferences

- XX Int. conf. "Problems of decision making under uncertainties (PDMU-2012)" (Brno, Czech Republic, September 17-21, 2012)
- International Conference dedicated to the 120th anniversary of Stefan Banach (Lviv, Ukraine, September 17-21, 2012)
- International Conference on Topics in PDE, Microlocal and Time-frequency Analysis (Novi Sad, Serbia, September 3-8, 2012)
- International conference in honor of Vladimir A. Marchenko's 90-th birthday "Spectral Theory and Differential Equations (STDE-2012)" (Kharkov, Ukraine, August 20-24, 2012)
- Crimea International Mathematical Conference (CIMC-2013). (Sudak, Ukraine, September, 22 – October, 4, 2013)
- International Conference "Complex analysis and related topics" (Lviv, Ukraine, September, 22–28, 2013)
- International Conference "Differential Equations. Function Spaces. Approximation Theory" dedicated to the 105th anniversary of the birthday of S.L. Sobolev (August 18-24, 2013, Novosibirsk, Russia)
- 9th International ISAAC Congress (August 5–9, 2013, Krakow, Poland)
- Nonlinear Partial differential equations (NPDE – 2013) (Donetsk, Ukraine, September 9-14, 2013)
- 10-th International Skorobohatko mathematical conference, (August 25–28, 2015, Drohobych)
- International conference "Complex Analysis and Related Topics", (Lviv, Ukraine, May 30 – June 4, 2016)
- 5th International Conference for Young Scientists on Differential Equations and Applications dedicated to Ya. B. Lopatynsky (Kyiv, Ukraine, November 9-11, 2016)
- Int. Conf. on Generalized Functions (Dubrovnik, Croatia, September 4-9, 2016)
- XVI Int. Conf. on Hyperbolic Problems: Theory, Numerics, Applications (Aachen (Germany), August 1-5, 2016)
- Workshop: Modeling, Analysis, and Approximation Theory toward applications in tomography and inverse problems (Lubeck (Germany), June 24-27, 2016)
- Workshop: Mathematics under construction (Potsdam, July 15, 2016)
- International Conference on Differential Equations dedicated to the 110th anniversary of Ya. B. Lopatynsky (Lviv, Ukraine, 21-24 September 2016)

Dissertations are defended in the department

PhD (Candidate of Sciences)

2012 – Savka I. Ya. - *Nonlocal boundary value problems for equations with partial derivatives, the coefficients of which belong to the manifolds* - 01.01.02 differential equations - Ivan Franko National University of Lviv, K 35.051.07– Ilkiv V. S.

2015 – Kuz A. M. - *Problems with integral conditions with respect to time variable for evolutionary equations* - 01.01.02 differential equations - Ivan Franko National University of Lviv, K 35.051.07 - Ptashnyk B.Y.

2015 – Repetylo S. M. - *Problems with mixed boundary conditions for hyperbolic and typeless equations in cylindrical domains* - 01.01.02 differential equations - Ivan Franko National University of Lviv, K 35.051.07 - Ptashnyk B. Y.

Doctoral degree

2012 – Kmit I. Ya. - *Nonlocal boundary value problems for hyperbolic systems of equations with singularities*: 01.01. 02 differential equations - Institute of Mathematics of the National Academy of Sciences of Ukraine, D 26.206.02 - Ptashnyk B. Y.

2015 - Protsakh N. P. - *Mixed problems for nonlinear evolution equations and ultraparabolic variational inequalities*: 01.01. 02 differential equations - Institute of Mathematics of the National Academy of Sciences of Ukraine, D 26.206.02 - Ptashnyk B. Y.