

Report of the department of “Function Theory” on scientific and scientific-organizational activities for the year 2020

In the reporting year, on the topic “Approximation of functions of several variables by ridge functions, neural networks, linear and nonlinear superpositions, embedding theorems for functional spaces” 5 works connecting 7 researchers were conducted. 9 articles were published abroad. 8 of these articles were published in journals indexed in the Web of Science platform of the Clarivate Analytics (namely, 2 in the "Science Citation Index", 2 in the "Science Citation Index Expanded", 4 in the "Emerging Sources Citation Index" databases). In addition, 3 articles were accepted for publication.

The staff of “Function Theory” department consists of 7 researchers:

1. Vugar Ismailov dr. math. sci., chief of the department
2. Alik Najafov dr. ph.-m. s., prof., chief r.a.
3. Rashid Aliev prof. of ANAS, dr. math. sci. chief r.a.
4. Ibrahim Maharov cand. ph.-m. s., senior r.a.
5. Arzu Babayev cand. ph.-m. s., senior r.a.
6. Aygun Orujova phd in math., r.a.
7. Aida Asgarova, junior r.a.

Publications:

Papers published in journals indexed by Clarivate Analytics:

Surnames, academic degrees and positions of collaborators	Names of scientific works	Printed or submitted for publication	Name of publisher, journal №, year	Page	Co-authors
1	2	3	4	5	6
Papers, published in journals included in the Science Citation Index Expanded					
1.Vugar Ismailov	1.Computing the approximation error for neural networks with weights varying on fixed directions	Paper	Numer. Funct. Anal. Optim. 40 (2019), no. 12, 1395-1409 (Clarivate Analytics SCI) https://www.tandfonline.com/doi.org/10.1080/01630563.2019.1605523	15	
	2. A representation problem for smooth sums of ridge functions	Paper	Journal of Approximation Theory, 257 (2020), Article 105448, (Clarivate Analytics SCI) https://www.sciencedirect.com/science/article/abs/pii/S0021904520300848	13	R.A. Aliev
2.Alik Najafov	3.Some properties of grand Sobolev-Morrey	Paper	Journal of Mathematical Inequalities, Volume 13, Number 4 (2019),	10	Sain T. Alekberli

	spaces with dominant mixed derivatives		pp.1171–1180, (Clarivate Analytics SCIE) http://files.ele-math.com/articles/jmi-13-83.pdf		
	4. On embeddings of grand grand Sobolev-Morrey spaces with dominant mixed derivatives	Paper	Tbilisi Mathematical Journal 13(1) (2020), pp.1–10, (Clarivate Analytics ESCI) http://tcms.org.ge/Journals/TMJ/Volume13/Volume13_1/PDF/tmj13_1_1.pdf	10	Rovshan F. Babayev
3. Rashid A.Aliev	5. On solvability of p-harmonic type equations in grand Sobolev spaces	Paper	European Journal of Pure and Applied Mathematics, v.13, No 3, 2020, pp.579-586 (Clarivate Analytics ESCI) https://www.ejpa.com/index.php/ejpam/article/view/3762	8	Sain T. Alekberli
	6. A representation problem for smooth sums of ridge functions	Paper	Journal of Approximation Theory, 257 (2020), Article 105448, https://www.sciencedirect.com/scie	13	Vugar E. Ismailov

4. Aida Kh. Asgarova	10. On the density of a sum of	Paper	<p>nce/article/abs/pii/S0021904520300848 (Clarivate Analytics SCI, Scopus)</p> <p>Azerbaijan Journal of Mathematics, 10:1 (2020), 209-221, http://azjm.org/volumes/1001/pdf/1001-13.pdf (Clarivate Analytics ESCI, Scopus)</p>	8	Kh.I.Nebiyeva
	7. The A-integral and Restricted Complex Riesz Transform	Paper	<p>Probl. Anal. Issues Anal. 2: 9 (27) (2020), 3-15, http://issuesofanalysis.petrus.ru/article/genpdf.php?id=7390&lang=en (Clarivate Analytics SCI, Scopus)</p>	13	Aynur N. Ahmadova
	8. Discrete Ahlfors-Beurling transform and its properties	Paper	<p>Constructive Mathematical Analysis, 3:3 (2020), 104-112, http://dergipark.gov.tr/en/pub/cma</p>	9	Khanim I. Nebiyeva
	9. The A-integral and Restricted Riesz Transform	Paper	<p>Azerbaijan Journal of Mathematics V.</p>	13	Kh.I.Nebiyeva

	algebras in the space of continuous functions		10, No 1, 2020, pp. 102-109, (Clarivate Analytics ESCI) https://www.azjm.org/volumes/100pdf/1001-6.pdf		
Articles accepted for publication					
1. Alik M.Najafov	1. On some differential properties of small small Sobolev-Morrey spaces,	Paper	Eurasian Mathematical Journal, (Clarivate Analytics ESCI)		
	2. On some differential properties functions from Lizorkin-Triebel-Morrey spaces with dominant mixed derivatives	Paper	Advances and Applications in Mathematical Sciences, (Clarivate Analytics ESCI)		Azizgul M.Gasymova
2. Aygun T. Orujova	3. Estimations of the norm of functions spaces type $S_{p,\varphi,\beta}^l W(G)$ reduced by polynomials	Paper	International Journal of Applied Mathematics, (Scopus, Q3)		

--	--	--	--	--	--

Head of the department

Dr.Math.Sci. Vugar Ismailov