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## Spis publikacji w latach 2017, 2018, 2020, 2021, 2022, 2023 i 2024

**W roku 2017 została opublikowana praca:**

[1] ] Włodzimierz Łenski and Bogdan Szal,  Approximate of integrable functions by wavelet expansions, Results in Math. (2017), Vol 72, iss. 3, p. 1203-1211.

**W roku 2018 zostały opublikowane prace:**

[2] Mateusz Kubiak, Włodzimierz Łenski and Bogdan Szal, Pointwise approximation of modified conjugate functions by matrix operators of conjugate Fourier series of $2\pi/r$-periodic functions, Journal of Inequalities and Applications  (2018) 2018:92.

[3] Włodzimierz Łenski and Bogdan Szal,   Pointwise convergence of Fourier-Laguerre series of integrable functions, Fasciculi Mathematici (2018) No 60, p. 93 – 101.

[4] Włodzimierz Łenski, Pointwise (H,Φ) strong approximation by Fourier series of integrable functions. Results in Math. (2018), Vol 73, p. 1-17.

[5] Włodzimierz Łenski and Bogdan Szal, Pointwise approximation of modified conjugate functions by matrix operators of their Fourier series,  Proceedings of the Estonian Academy of Sciences, (2018), 67, 1, 50–60.

[6] Włodzimierz Łenski and Bogdan Szal, Pointwise approximation of 2pi/r-periodic functions by matrix operators of their Fourier series with r- differences of the entries, Demonstratio Mathematica (2018), Vol 51, iss. 1, pp. 309 -322.

**W roku 2020 zostały opublikowane prace:**

[7] Włodzimierz Łenski and Bogdan Szal,  Pointwise approximation of modified conjugate functions by matrix operators of their Fourier series with the use of some parameters, Tamkang Journal of Mathematics Volume 51, Number 2, 145-159, June 2020.

[8] Włodzimierz Łenski and Bogdan Szal,  Pointwise approximation of functions by matrix operators of their Fourier series with r-differences of the entries, Lithuanian Mathematical Journal, Vol. 60, No. 4, October, 2020, pp. 494–512.

[9] Włodzimierz Łenski and Bogdan Szal,  Trigonometric Approximation of Functions from $Lp(x)$, Results in Math. (2020), 75:56.

**W roku 2021 zostały opublikowane prace:**

[10] Włodzimierz Łenski, Uaday Singh and Bogdan Szal,  Trigonometric approximation of functions in seminormed spaces, Mathematical Inequalities & Applications, Volume 24, Number 1 (2021), 89–101

[11] Włodzimierz Łenski and Bogdan Szal, On estimates of deviation of conjugate functions from matrix operators of their Fourier series by some expressions with $r$ - differences of the entries, Publications de'l Institut Mathematique, Belgrad, Nouvelle série, tome 109(123) (2021), 109–123

**W roku 2022 zostały opublikowane prace:**

[12] Xhevat Z. Krasniqi, Włodzimierz Łenski and Bogdan Szal, Approximation of integrable functions by generalized de la Vallée Poussin means of the positive order, Journal of Applied Analysis and Computation, Volume 12, Number 1, February 2022, 1--19, DOI:10.11948/20210067.

[13] Włodzimierz Łenski, Pointwise $(H,\Phi)$ strong approximation by Fourier series of $L^\Psi$ integrable functions, Tamkang Journal of Mathematics, Volume 53, Number 1, 1-9, March 2022, DOI:10.5556/j.tkjm.53.2022.3219..

[14] ] Xhevat Z. Krasniqi, Włodzimierz Łenski and Bogdan Szal, Approximation by some subsequences of matrix means, Lithuanian Mathematical Journal, Vol. 62, No. 1, January, 2022, pp. 28--42, DOI 10.1007/s10986-022-09557-w.

[15] Włodzimierz Łenski, Vishnu Narayan Mishra and Bogdan Szal, Approximation of integrable functions by general linear matrix operators of their Fourier series, Demonstratio Mathematica 2022; 55: 1–17, doi.org/10.1515/dema-2022-0009.

[16] X. Krasniqi, Włodzimierz Łenski and Bogdan Szal, Seminormed approximation by nonnegative deferred matrix means of integrable functions in Hpw space, Results Math (2022) 77:145. doi.org/10.1007/s00025-022-01696-3

## W roku 2023 została opublikowana praca:

[17] Maciej Kubiak, Włodzimierz Łenski and Bogdan Szal, Pointwise summability of Fourier-Laguerre series of integrable functions. Filomat 3722 (2023), 7599–7606, doi.org/10.2298/FIL2322599K.

## W roku 2024 została przyjęta do publikacji praca:

[18] Włodzimierz Łenski and Bogdan Szal, Hölder's seminormwise approximation of bivariable functions in seminormed space by second type Double Delayed Arithmetic Mean of Fourier series. Przyjęta w FILOMAT. arXiv:submit/4427560 [math.CA] 30 Jul 2022

**Prace wysłane do publikacji :**

[19] Włodzimierz Łenski and Bogdan Szal, On generalization of some theorems with absolute summability factors of infinite series.

[20] Włodzimierz Łenski and Bogdan Szal, Estimates of convolution operators of functions from Lp(x),

[21] Włodzimierz Łenski, Bogdan Szal and Ram N. Mohapatra, Seminormed approximation of functions by operators based on their Fourier series.

[22] Włodzimierz Łenski and Bogdan Szal, Strong approximation by Fourier series in the Hölder norms.

[23] X. Krasniqi, Włodzimierz Łenski and Bogdan Szal, Approximation of integrable functions by product of operators.

[24] X. Krasniqi, Włodzimierz Łenski and Bogdan Szal, On approximation of functions by very general matrix means of their Fourier Series.

[25] Włodzimierz Łenski and Bogdan Szal, Seminormwise approximation by matrix means of Fourier series under some conditions with r-th differences and positive weights.

**W trakcie przygotowania ostatecznych wersji są prace:**

[26] Włodzimierz Łenski and Bogdan Szal, Trigonometric approximation in weighted generalized grand Lebesgue spaces.

[27] Włodzimierz Łenski, Bogdan Szal and Ram N. Mohapatra, Approximation by de la Vallée Poussin operator of functions from Lp(x).

[28] Włodzimierz Łenski and Bogdan Szal, Trigonometric approximation of functions in seminormed spaces by matrix means with entries from HBVMS.

[29] Włodzimierz Łenski, On the Tandori type pointwise strong summability of Fourier series.

[30] Włodzimierz Łenski, Uaday Singh and Bogdan Szal, Strong approximation of almost periodic functions with application of seminorm.

[31] Włodzimierz Łenski and Bogdan Szal, Seminormed approximation by matrix means of Fourier series under some conditions with differences of higher orders.