

Marek Bożejko

Institute of Mathematics Polish Academy of Sciences, Wrocław,
Kopernika 18 .

Title: "Khinchine inequality and Sidon sets on discrete groups with applications"

Abstract:

The main plan of my talk is following:

1. Khinchine inequality for Rademacher and Steinhaus systems and generalisations to Sidon sets on noncommutative groups like Coxeter (permutations) and free groups.

2. Applications to Harmonic Analysis -multipliers and completely bounded multipliers(Herz-Schur multipliers), amenability , completely bounded approximation property of Fourier algebras of locally compact groups, and lacunary Fourier series on quantum compact groups.

3.Applications to operator spaces and C^* -algebras- Haagerup type inequality with operators coefficients.

References: 1. Bożejko M.: On $\Lambda(p)\Lambda(p)$ sets with minimal constant in discrete noncommutative groups. Proc. Am. Math. Soc. **51**, 407–412 (1975).

2.M.Bożejko, Positive definite bounded matrices and a characterization of amenable groups, Proc. AMS, 95(1985),357-360.

3,. M.Bożejko ,M.Picardello, Weakly amenable groups and amalgamated products, Proc. Amer. Math. Soc. 117 (4) (1993) 1039–1046.

4. M.Bożejko,S.Gal,W.Mlotkowski, Positive Definite Functions on Coxeter Groups with Applications to Operator Spaces and Noncommutative Probability, Commun. Math. Phys. 361, 583–604 (2018).

5. M. **Bożejko** and R. **Speicher**, Completely positive maps on Coxeter Groups, deformed commutation relations, and operator spaces, **Math. Annalen** 300 (1994),97-120,
6. Buchholz A.: Optimal constants in Khintchine type inequalities for fermions, Rademachers and q -Gaussian operators. *Bull. Pol. Acad. Sci. Math.* **53**(3), 315–321 (2005)
7. A. Figa-Talamanca and M. A. Picardello, Multiplicateurs de $A(G)$ qui ne sont pas dans $Z^3(G)$, *C. R. Acad. Sci. Paris* 277 (1973), 117.
8. Kaczmarz, S., Steinhaus, H.: *Theorie der Orthogonalreihen*. Monografie Matematyczne. Instytut Matematyczny Polskiej Akademi Nauk, Warszawa-Lwów (1936).
9. Naokazu Mizuta, A Bozejko–Picardello type inequality for finite-dimensional $CAT(0)$ cube complexes , *Journal of Functional Analysis* 254 (2008) 760–772
10. M. A. Picardello, Lacunary sets in discrete noncommutative groups, *Boll. Un. Mat. Ital.* 8 (1973)
11. Simeng Wang, **Lacunary Fourier series for compact quantum groups**, *Comm. Math. Phys.*, 349:3 (2017), 895-945.