19th Workshop: Noncommutative Probability, Noncommutative Harmonic Analysis and Related Topics with Applications, 31.07-6.08.2022, Będlewo

ABSTRACT

Adam Osękowski (University of Warsaw) Martingales and the free Hilbert transform Abstract:

The Hilbert transform is a fundamental object in harmonic analysis, and its various modifications and extensions play a distinguished role both in the classical and the noncommutative context. The purpose of the talk is to illustrate how martingale methods yield the L^p -boundedness (1 of this operator in the free case (cf. [1, 2]). We will also discuss the possibility of extending the result to other classes of operators.

- T. Gałązka, A. Osękowski, A probabilistic approach to Hilbert transforms on free group von Neumann algebras, Proc. Amer. Math. Soc. 150 (2022), no. 7, 2861–2877.
- [2] T. Mei, É. Ricard, Free Hilbert transforms, Duke Math. J. 166 (2017), no. 11, 2153–2182.