

**Mariusz Lemańczyk.** Automorphisms with quasi-discrete spectrum, multiplicative functions and average orthogonality along short intervals.

**Abstract.** We show that Sarnak’s conjecture on Möbius disjointness holds in every uniquely ergodic model of a quasi-discrete spectrum automorphism. A consequence of this result is that, for each non-constant polynomial  $P \in \mathbb{R}[x]$  with irrational leading coefficient and for each multiplicative function  $\nu : \mathbb{N} \rightarrow \mathbb{C}$ ,  $|\nu| \leq 1$ , we have

$$\frac{1}{M} \sum_{M \leq m < 2M} \frac{1}{H} \left| \sum_{m \leq n < m+H} e^{2\pi i P(n)} \nu(n) \right| \rightarrow 0.$$

This is my joint work with H. El Abdalauoi and T. de la Rue.

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