

Groups of rational interval exchange transformations

Agnieszka Bier (agnieszka.bier@polsl.pl)

This is a joint work with Vitaliy Sushchansky. Given a partition $\pi = \{a_0, a_1, \dots, a_n\}$ of $I = [0, 1)$ into n subintervals $[a_i, a_{i+1})$, $i = 0, \dots, n - 1$ a left-continuous bijection $f : [0, 1) \rightarrow [0, 1)$ acting as piecewise translation and shuffling the subintervals $[a_i, a_{i+1})$, is called an *interval exchange transformation (iet)* of I . If π is rational, i.e. $a_i \in \mathbb{Q}$ for all i , then iet is called rational. The set *RIET* of all rational interval exchange transformations of I is a group with respect to composition of transformations.

In the talk we discuss subgroups of *RIET* defined by supernatural numbers. We show that the lattice of such subgroups coincides with the lattice of supernatural numbers with divisibility relation. We also list some properties of such subgroups.

References

- [1] Bier A., Sushchansky V., „Dense subgroups in the group of interval exchange transformations”, *Algebra Discrete Math.* 17 (2014), p. 232 – 247
- [2] Bier A., Oliynyk B., Sushchansky V., „Generating sets of RIET”, to appear