On upper frequent hypercyclicity

Karl Grosse-Erdmann[1],

Hypercyclic and frequently hypercyclic operators play a central role in linear dynamics. However, while the set of hypercyclic vectors is always residual (unless it is empty), the set of frequently hypercyclic vectors is always meagre. Bayart and Ruzsa [1] have recently shown that the set of *upper* frequently hypercyclic vectors is, again, always residual (or empty). We investigate in greater detail why this is so. Our results have consequences, among other things, for the notion of reiterative hypercyclicity that was recently introduced by Bès, Menet, Peris and Puig [2].

This is joint work with Antonio Bonilla [3].

References

[1] F. Bayart and I. Z. Ruzsa, Difference sets and frequently hypercyclic weighted shifts, *Ergodic Theory Dynam. Systems* **35** (2015), 691–709.

[2] J. Bès, Q. Menet, A. Peris, and Y. Puig, Recurrence properties of hypercyclic operators, *Math. Ann.*, to appear.

[3] A. Bonilla and K.-G. Grosse-Erdmann, *Upper frequent hypercyclicity and related notions*, arXiv:1601.07276.

[1]Département de Mathématique, Université de Mons, 20 Place du Parc,
7000 Mons, Belgium
`kg.grosse-erdmann@umons.ac.be`