Strongly mixing convolution operators in the gaussian sense

Martín SAVRANSKY (Universidad de Buenos Aires — Argentina)

A theorem of Godefroy and Shapiro [3] states that non-trivial convolution operators on $H(\mathbb{C}^n)$ are hypercyclic. This theorem was improved in [2], where it is shown that non-trivial convolution operators are frequently hypercyclic and that there are frequently hypercyclic entire functions of exponential growth. Using new technics developed independently by Bayart and Matheron [1] and by Murillo-Arcila and Peris [4], we prove that non-trivial convolution operators defined on the space of entire functions of bounded type associated to a holomorphy type are strongly mixing with respect to a gaussian probability measure. Also we prove the existence of frequently hypercyclic entire functions of exponential growth.

REFERENCES

[1] F. Bayart and E. Matheron, *Mixing operators and small subsets of the circle* (2011). Preprint.

[2] A. Bonilla and K.-G. Grosse-Erdmann, *On a theorem of Godefroy and Shapiro*, Integral Equations Operator Theory. **56** (2006), no. 2, 151–162.

[3] G. Godefroy and J. H. Shapiro, *Operators with dense, invariant, cyclic vector manifolds*, J. Funct. Anal. **98** (1991), no. 2, 229–269.

[4] M. Murillo-Arcila and A. Peris, *Strong mixing measures for linear operators and frequent hypercyclicity*, J. Math. Anal. Appl. **398** (2013), no. 2, 462–465.

Joint work with Santiago Muro and Damián Pinasco.