

1166-11-178

Thai Hoang Le* (leth@olemiss.edu), Department of Mathematics, University of Mississippi, University, MS 38677, and **Pierre-Yves Bienvenu**. *Uniformity of the Möbius function in $\mathbf{F}_q[t]$.*

The Möbius randomness principle states that the Möbius function μ does not correlate with simple or low complexity sequences $F(n)$, that is, we have non-trivial bounds for sums $\sum_{n=1}^N \mu(n)F(n)$.

By analogy between the integers and the ring $\mathbf{F}_q[t]$ of polynomials over a finite field \mathbf{F}_q , we study this principle in the latter setting and expect that for f in $\mathbf{F}_q[t]$, $\mu(f)$ does not correlate with low degree polynomials evaluated at the coefficients of f . In this talk, I will talk about our results in the linear and quadratic cases. Our main tool is a bilinear version of the Bogolyubov theorem in additive combinatorics. This is joint work with Pierre-Yves Bienvenu. (Received February 22, 2021)