Fuglede's conjecture for convex domains

MÁTÉ MATOLCSI

Budapest University of Technology and Economics

and

Alfréd Rényi Institute of Mathematics

Budapest

Hungary

In a recent joint work with Nir Lev we proved that Fuglede's conjecture holds for all convex domains in all dimensions. That is, we proved that a convex domain A in $\mathbb{R}^n$ tiles the space by translation if and only if A is spectral (i.e. $\mathbb{L}^2(A)$ has an orthogonal basis of exponentials).