Sebastián Donoso. A pointwise cubic average for two commuting transformations.

Abstract. Huang, Shao and Ye recently studied pointwise multiple averages by using suitable topological models. Using a notion of dynamical cubes introduced by the authors, the Huang-Shao-Ye technique and the Host machinery of magic systems, we prove that for a system (X, μ, S, T) with commuting transformations S and T, the average

$$\frac{1}{N^2} \sum_{i,j=0}^{N-1} f_0(S^i x) f_1(T^j x) f_2(S^i T^j x)$$

converges a.e. as N goes to infinity for any $f_0, f_1, f_2 \in L^\infty(\mu)$. This is a joint work with Wenbo Sun.