
WEIKUN HE, Korea Institute for Advanced Study

Sum-product estimates in semisimple algebras and random walks on the torus

I will present some results in the spirit of Bourgain's discretized sum-product theorem, but for general semisimple algebras over the real numbers. Then I will highlight an application to ergodic theory. More precisely, I will explain how these sum-product estimates are used in proving new results on the equidistribution of linear random walks on the torus. This talk is based on joint works with Nicolas de Saxcé.