An "uncertainty principle" for arithmetic sequences

Kannan Soundararajan (`ksound@umich.edu`)
University of Michigan
Department of Mathematics
Ann Arbor, MI 48103
USA

Abstract. In the 80's Maier showed that the primes cannot be distributed too evenly in short intervals. This was subsequently refined and extended to the distribution of primes in arithmetic progressions by Friedlander, Granville, Hildebrand, and Maier. Recently Balog and Wooley proved a similar phenomenon for the distribution of integers that are sums of two squares. I will discuss recent work with Granville which realizes these examples as a general feature shared by many "arithmetic sequences."