

Title: "On Sloane's persistence problem"
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Abstract:

We investigate the so-called persistence problem of Sloane, exploiting connections with the dynamics of circle maps and the ergodic theory of free abelian actions. We also formulate a conjecture, concerning the asymptotic distribution of digits in long products of primes chosen from a given finite set, whose truth would in particular solve the persistence problem. We provide computational evidence and an heuristic argument in favor of our conjecture. Such heuristics can be thought in terms of a simple model in statistical mechanics. This talk is based on joint work with Charles Tresser (IBM).