Abstract

In 1987 Paul Erdős asked me if the Cayley graph defined on $\mathbb{Z}$ by a lacunar sequence has necessarily a finite chromatic number.

My answer was that it does, and the key to the solution is the interpretation of the question in terms of recurrence (return times) of dynamical systems.

I intend to explain the terms, the method, the answer to Erdős’ question, and end with the (still open) problem: Is the recurrence property of topological dynamical systems purely arithmetical?