

**Zbl 697.10002**

**Erdős, Paul**

*Some applications of probability methods to number theory. Successes and limitations.* (In English)

**Sequences, combinatorics, compression, security, and transmission, Pap. Adv. Int. Workshop, Naples/Italy 1988, 182-194 (1990).**

[For the entire collection see Zbl 685.00004.]

The paper is a lucid exposition of a large plethora of solved and unsolved problems in probabilistic number theory, focussing on the applications of probability theory to (a) additive problems, (b) additive and multiplicative arithmetic functions and (c) combinatorial theory.

It is written in the typical Erdős style, setting prices for the solution of certain problems and injecting interesting autobiographical remarks as well as philosophical reflections on the ingredients of genius and success in mathematics.

*B. Volkmann*

Classification:

11-02 Research monographs (number theory)

11B13 Additive bases

11K65 Arithmetic functions (probabilistic number theory)

11N37 Asymptotic results on arithmetic functions

Keywords:

Sidon sequences; Erdős-Kac theorem; distribution of arithmetic functions; solved and unsolved problems; probabilistic number theory