

Zbl 022.01001

**Erdős, Paul**

*On the smoothness of the asymptotic distribution of additive arithmetical functions.* (In English)

**Amer. J. Math.** **61**, 722-725 (1939).

Let  $f$  be an additive function of the form  $f_n = \sum a_p$ , where the sum is over the prime divisors of  $n$  and  $a_2, a_3, a_4, \dots$  are real. If this  $f$  has an asymptotic distribution function  $\sigma$  then  $\sigma$  is known to be either purely discontinuous or purely singular or absolutely continuous. Conditions for the first case are well known. Examples are given for the other cases. In particular examples for which  $\sigma$  has derivatives of arbitrarily high order, and examples for which  $\sigma$  is represented by the values on the real axis of a transcendental entire function. The paragraph: "In fact,..." on p. 725 is damaged by misprints, but remains understandable.

*v.Kampen (Baltimore.)*

Classification:

11N60 Distribution functions (additive and positive multipl. functions)

11K65 Arithmetic functions (probabilistic number theory)