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*On the value distribution of a class of arithmetic functions*

Comment.Math.Univ.Carolinae 37,1 (1996) 115-132.

**Abstract:** This article deals with the value distribution of multiplicative prime-independent arithmetic functions  $(\alpha(n))$  with  $\alpha(n) = 1$  if  $n$  is  $N$ -free ( $N \geq 2$  a fixed integer),  $\alpha(n) > 1$  else, and  $\alpha(2^n) \rightarrow \infty$ . An asymptotic result is established with an error term probably definitive on the basis of the present knowledge about the zeros of the zeta-function. Applications to the enumerative functions of Abelian groups and of semisimple rings of given finite order are discussed.

**Keywords:** arithmetic functions, value distribution, finite Abelian groups

**AMS Subject Classification:** 11N64, 11N37, 11N45