Indlekofer, K.-H.; Wehmeier, S.
Mean behaviour of multiplicative functions on additive arithmetical semigroups. (English) [Zbl 1132.11353]

Summary: The authors prove Chebyshev-type estimates and asymptotic formulae, for the prime elements in general additive arithmetical semigroups. Mean value theorems with remainder term estimates are proved for a large class of multiplicative functions on additive arithmetical semigroups. As applications, the authors derive asymptotic formulae for the mean behavior of prime divisor functions and of distinct degrees of prime factors. The paper continues the investigations of the authors’ paper [Comput. Math. Appl. 48, No. 12, 1947–1971 (2004; Zbl 1068.11062)].

MSC:
11N37 Asymptotic results on arithmetic functions
11M45 Tauberian theorems

Keywords:
Euler product; prime element coefficient; Mangoldt’s coefficient; Möbius inversion; Chebyshev-type estimate; Mertens-type estimate; multiplicative functions; additive arithmetical semigroups

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References:

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