Zbl 367.40005
Erdős, Paul; Segal, S.L.
A note on Ingham's summation method. (In English)
J. Number Theory 10, 95-98 (1978). [0022-314X]

A series Σc_n is summable (I) to A if

$$\lim_{x \to \infty} \frac{1}{x} \sum_{n \leq x} \sum_{d/n} d c_d = A.$$

This is a non-regular summation method attributed to *A.E.Ingham* [J. London Math. Soc. 20, 171- 180 (1945; Zbl 061.12802)] although published earlier by *A.Wintner* [Eratosthenian Avergaes, (1943; Zbl 060.10503)]. *G.H.Hardy* observed [Divergent Series (1949; Zbl 032.05801)] that if Σc_n is (I)-summable then $c_n = o(\log \log n)$. The present paper shows that Hardy's result is best possible by constructing, for any given positive sequence converging to zero, a series Σa_n which is (I)-summable and for which $a_n / \log \log n \to 0$ more slowly than the given sequence.

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Classification:
40G99 Special methods of summability
11N05 Distribution of primes