

Zbl 863.11058

Erdős, Paul; Nathanson, Melvyn B.

On the sum of the reciprocals of the differences between consecutive primes. (In English)

Chudnovsky, D. V. (ed.) et al., Number theory: New York seminar, 1991- 1995. New York, NY: Springer, 97-101 (1996). [ISBN 0-387-94826-0]

This paper asks, for which values of c does the sum

$$\sum_{n=2}^{\infty} \frac{1}{n(\log \log n)^c (p_{n+1} - p_n)},$$

where p_n is the n th prime, converge? It is shown that the sum converges for $c > 2$, and a heuristic argument, suggesting divergence for $c = 2$, is presented. The proofs are elementary.

D.R.Heath-Brown (Oxford)

Classification:

11N05 Distribution of primes

Keywords:

sum of reciprocals of the differences between consecutive primes