

Tao, Terence

Arithmetic progressions and the primes. (English) Zbl 1109.11043
Collect. Math. 2006, Spec. Iss., 37-88 (2006).

The author surveys the methods of proof of the theorem: Let $A \subset \mathbb{P}$ be a subset of primes with positive relative upper density:

$$\limsup_{N \rightarrow \infty} \frac{|A \cap [1, N]|}{| \mathbb{P} \cap [1, N]|} > 0,$$

and let $k \geq 3$. Then A contains infinitely many arithmetic progressions of length k . In particular, the primes contain arbitrarily long arithmetic progressions.

Reviewer: [Florin Nicolae \(Berlin\)](#)

MSC:

- [11N13](#) Primes in congruence classes
- [11B25](#) Arithmetic progressions
- [37A45](#) Relations of ergodic theory with number theory and harmonic analysis (MSC2010)

Cited in **5** Documents

Keywords:

[prime numbers](#); [arithmetic progressions](#)

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