Title: An estimate for the length of an arithmetic progression the product of whose terms is almost square

Author(s): Shanta Laishram

Erdős conjectured that

\[ n(n + d)\ldots(n + (k - 1)d) = y^2 \]  \hspace{1cm} (1)

in positive integers \( n, k \geq 3, d > 1, y \) with \( \gcd(n, d) = 1 \), implies that \( k \) is bounded by an absolute constant. Shorey and Tijdeman [16] showed that (1) implies that \( k \) is bounded by an effectively computable number depending only on \( \omega(d) \), the number of distinct prime divisors of \( d \). In this paper, an explicit bound for \( k \) in terms of \( \omega(d) \) is presented.

Address:
Shanta Laishram
School of Mathematics
Tata Institute of Fundamental Research
Homi Bhabha Road, Mumbai 400005
India
E-mail: shanta@math.tifr.res.in