Abstract: We shall place in a general context the following result recently (*) obtained jointly with Yuri Bilu (Bordeaux), Sanoli Gun (Chennai) and Florian Luca (Johannesburg).

**Theorem.** Let \( \tau(\cdot) \) be the classical Ramanujan \( \tau \)-function and let \( k \) be a positive integer such that \( \tau(n) \neq 0 \) for \( 1 \leq n \leq k/2 \). (This is known to be true for \( k < 10^{23} \), and, conjecturally, for all \( k \).) Further, let \( \sigma \) be a permutation of the set \( \{1, \ldots, k\} \). We show that there exist infinitely many positive integers \( m \) such that

\[
|\tau(m + \sigma(1))| < |\tau(m + \sigma(2))| < \cdots < |\tau(m + \sigma(k))|
\]

The proof uses sieve method, Sato-Tate conjecture, recurrence relations for the values of \( \tau \) at prime power values.


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