The system of congruences (1) $a_i \pmod{n_i}$, $n_1 < ... < n_k$, is called a covering system if every integer satisfies at least one of the congruences (1). An old conjecture of Erdős states that for every integer c there is a covering system with $n_1 = c$. This is still unproved. A system (1) is called disjoint if every integer satisfies at most one of the congruences (1). Denote by $f(x)$ the largest value of k for which there is a disjoint system (1) satisfying $n_k \leq x$. Erdős and Stein conjectured that $f(x) = o(x)$. The authors prove a stronger result, namely Theorem 1 below. Theorem 1. For every $\varepsilon > 0$ if $x > x_0(\varepsilon)$ we have (c_1 denotes a suitable positive constant)

$$x / \exp((\log x)^{1/2+\varepsilon}) < f(x) < x/(\log x)^{c_1}.$$

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Classification:
11A07 Congruences, etc.
11B25 Arithmetic progressions