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Section:

3. Number Theory and Arithmetic Algebraic Geometry

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Distribution of primes having a prescribed primitive root over residue classes

Let g be an integer and p a prime. The integer g is said to be a primitive root mod p if the smallest positive integer k such that $g^k \equiv 1(\text{mod } p)$ equals $p-1$. Let $\mathcal{P}_g$ denote the set of primes p such that g is a primitive root mod p. Let $d \geq 1$ be an integer. All pairs (g, d) are determined such that every primitive residue class mod d gets 'an equal share' asymptotically from P_g. This research is motivated by a conjecture of Rodier [2], which turns out to be false.

References [1] P. Moree, Uniform distribution of primes having a prescribed rational primitve root, MPI-preprint 98-23. (Available on the web under http://www.mpim-bonn.mpg.de/ html/preprints.html). [2] P. Moree, On a conjecture of Rodier on primitve roots, *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 165-171.