

Christian Ballot and Michele Elia

Rank and period of primes in the Fibonacci sequence. A trichotomy,
Fibonacci Quart. **45** (2007), no. 1, 56–63.

Abstract

It has been known since 1985 that one third of the primes do not divide any Lucas number. Here we show that the two remaining thirds can be split naturally into two subsets each of density one third. We prove that the resulting prime trisection can be described in several ways, one of them depending on the value of the ratio of the period T of the Fibonacci sequence $F \pmod{p}$ to the rank of appearance r of p in F .