Diego Marques, James A. Sellers, and Pavel Trojovský

Abstract

Let $(F_n)_{n\geq 0}$ be the Fibonacci sequence. For $1 \leq k \leq m$, the Fibono-
mial coefficient is defined as
$$\begin{bmatrix} m \\ k \end{bmatrix}_F = \frac{F_{m-k+1} \cdots F_{m-1} F_m}{F_1 \cdots F_k},$$
and $\begin{bmatrix} m \\ k \end{bmatrix}_F = 0$, for $k > m$. In this paper, we shall prove that if p is a
prime number such that $p \equiv -2$ or $2 \pmod 5$, then $p \mid \begin{bmatrix} p^{a+1} \\ p^a \end{bmatrix}_F$ for all
$a \geq 1$.