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On Divisibility Properties of Certain Fibonomial Coefficients by a Prime,
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Abstract

Let $(F_n)_{n \geq 0}$ be the Fibonacci sequence. For $1 \leq k \leq m$, the fibonomial coefficient is defined as

$$\left[\begin{matrix} m \\ k \end{matrix} \right]_F = \frac{F_{m-k+1} \cdots F_{m-1} F_m}{F_1 \cdots F_k},$$

and $\left[\begin{matrix} m \\ k \end{matrix} \right]_F = 0$, 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 $p \mid \left[\begin{matrix} p^{a+1} \\ p^a \end{matrix} \right]_F$ for all $a \geq 1$.