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On the Sequence $(p_n^2-p_{n-1}p_{n+1})_{n\ge 2}$

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Abstract:

Let p_n be the n-th prime number and $x_n = p_n^2 - p_{n-1}p_{n+1}$. In this paper, we study sequences containing the terms of the sequence $(x_n)_{n\geq 1}$. The main result asserts that the series $\sum_{n=1}^{\infty} x_n/p_n^2$ is convergent, without being absolutely convergent.