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The crossing number of $P_5^2 \times C_n$

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ABSTRACT.

Patil and Krishnnamurthy established family of graphs for which power graphs have crossing number one. This is the only result concerning crossing numbers of power of some graphs. Let P_m^2 denote the power of the path P_m. We start to determine crossing numbers of a new infinite family of graphs, concretely for the Cartesian products $P_m^2 \times C_n$ where $m \geq 2$ and $n \geq 3$. The main result of the paper is that the crossing number of the graph $P_5^2 \times C_n$ is $4n$ for all $n \geq 3$.

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