

New Bounds for the Crossing Number of Cartesian Products of Cycles

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The crossing number of the Cartesian product $C_m \times C_n$ of the cycles of sizes m and n is conjectured to be $(m-2)n$, for all m, n such that $n \geq m \geq 3$. This has been proved only for m, n satisfying $n \geq m, m \leq 7$. In this talk we show that the crossing number of $C_m \times C_n$ is at least $2/3$ of its conjectured value. This is the best general lower bound known for the crossing number of $C_m \times C_n$.