Some C4-supermagic graphs

Abstract:

A simple graph $G=(V,E)$ admits an $H$-covering if every edge in $E$ belongs to a subgraph of $G$ isomorphic to $H$ we say that $G$ is $H$-supermagic if there is a total labeling $f:V \cup E \rightarrow \{1,2,\ldots,|V|+|E|\}$ such that for each subgraph $H'=(V',E')$ of $G$ isomorphic to $H$, $\sum_{v \in V'} f(v) + \sum_{e \in E'} f(e)$ is constant. When $f(V)=\{1,2,\ldots,|V|\}$, then $G$ is said to be $H$-supermagic. In this paper we show that all prism graphs $C_n \times P_m$ except for $n=4$, the ladder graph $P_2 \times P_n$ and the grid $P_3 \times P_n$ are C4-supermagic.