

Gregarious Path Decompositions of Some Graphs

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Let G be a simple graph and $f(v)$ a positive integer for each vertex v of G . Form G^f by replacing each v by a set $F(v)$ of $f(v)$ vertices, and each edge uv by complete bipartite graph on bipartition $(F(u), F(v))$. Can we partition G^f into paths of length 2 which are *gregarious*, that is, meet three different $F(u)$'s?

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