Meeting: 1004, Bowling Green, Kentucky, SS 2A, Special Session on Graph Theory

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By a graph-pair of order $t$, we mean two non-isomorphic graphs $G$ and $H$ on $t$ non-isolated vertices for which $G \cup H \cong K_t$ for some integer $t \geq 4$. Given a graph-pair $(G, H)$, if the edges of $K_m$ can be partitioned into copies of $G$ and $H$ with at least one copy of $G$ and one copy of $H$, we say $(G, H)$ divides $K_m$. We will refer to this partition as a $(G, H)$-multidecomposition. When $K_m$ does not admit a $(G, H)$-multidecomposition, we instead find a maximum multipacking and a minimum multicovering. A multidesign is a multidecomposition, a maximum multipacking, or a minimum multicovering. We consider the problem with certain leaves. (Received January 25, 2005)