Hilton, A. J. W.; Rodger, C. A.
Hamiltonian decompositions of complete regular s-partite graphs. (English) Zbl 0593.05047
Discrete Math. 58, 63-78 (1986).

Generalizing a method of the first author [Hamiltonian decompositions of complete graphs, J. Comb. Theory, Ser. B 36, 125-134 (1984; Zbl 0542.05044)], the authors give a procedure by which Hamiltonian decompositions of the complete s-partite graph $K(n,\ldots,n)$ can be constructed whenever $(s-1)n$ is even. The main effort is devoted to extending partial decompositions to Hamiltonian decompositions. Several theorems are presented, e.g.: If $1 \leq b \leq a \leq m$, then any proper edge-coloring of $K(a,b)$ with $m$ colors can be extended to a Hamiltonian decomposition of $K(2m,2m)$.

Reviewer: J. Plesník

MSC:
05C45 Eulerian and Hamiltonian graphs
05C15 Coloring of graphs and hypergraphs

Keywords:
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References:

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