

## ON THE DECOMPOSITIONS OF COMPLETE GRAPHS INTO CYCLES AND STARS ON THE SAME NUMBER OF EDGES

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### Abstract

Let  $C_m$  and  $S_m$  denote a cycle and a star on  $m$  edges, respectively. We investigate the decomposition of the complete graphs,  $K_n$ , into cycles and stars on the same number of edges. We give an algorithm that determines values of  $n$ , for a given value of  $m$ , where  $K_n$  is  $\{C_m, S_m\}$ -decomposable. We show that the obvious necessary condition is sufficient for such decompositions to exist for different values of  $m$ .

**Keywords:** cycles, stars, graph-decompositions.

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