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Spanning Trees of Complete Cayley Graphs

If G be a finite group of order n , we denote by K_G the complete Cayley graph on G . Let L be a multiset of group elements from G . If K_G contains a subgraph whose edge labels are precisely L then we say that L is realizable as a G -subgraph. For an arbitrary finite group G , we present necessary and sufficient conditions for a multiset L to be realizable as a G -spanning tree. This work is motivated by a conjecture by Buratti that any list of $p - 1$ elements from \mathbb{Z}_p is realizable as a \mathbb{Z}_p -path.