Dedicated to Costică MUSTĂŢA on his 60ᵗʰ anniversary

APPROXIMATION RESULTS FOR THE GENERALIZED MINIMUM SPANNING TREE PROBLEM

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Abstract. We consider the Generalized Minimum Spanning Tree problem denoted by GMST. It is known that the GMST problem is NP-hard. Throughout this paper we distinguish between so-called positive results and negative results in the area of approximation theory. We present an in-approximability result for the GMST problem and under special assumptions we give an approximation algorithm for the problem.

MSC: 90C11, 90C27, 05C05, 90B10.

Keywords: approximation algorithms, combinatorial optimization, generalized minimum spanning trees, LP relaxation.