

**CROSSING NUMBER OF A CLASS OF
GENERALIZED FAT TREES**

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Abstract: We have extended our work from [2] and in this paper, we find an upper bound for the crossing number for a class of generalized fat tree based on the underlying graph model found in the literature. We also improve this bound for a new drawing of the same structure. The proofs are based on the drawing rules introduced in this paper.

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1. Introduction

Even though this problem has a long history in the field of graph theory, only in the past twenty years, it turned out that crossing numbers play an important role in various fields of discrete and combinatorial geometry [17]. Because of the large success of very large scale integration (VLSI) technology many researchers have focused on optimizing the VLSI circuit layout [3, 15]. When fabricating a VLSI layout for a network, crossing numbers can be used to obtain lower

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