

# Optimal Transformation of Non-tree Topologies for Timing Analysis

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## Abstract

Based on the assumption of a single wiring open in a signal net, it is known that the non-tree topology for a signal net has no adjacent loop. In this paper, based on RC non-tree transformation in Elmore delay model, an optimal algorithm for timing analysis is firstly proposed to compute the timing delays of all the reference nodes in a non-tree topology. Compared with the SPICE tool, the experimental results show that our proposed approach uses less CPU time to achieve the timing results for non-tree topologies under 0.62% delay error on the average.

Keyword : Non-tree, Timing analysis