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Authors:

Shireen T. Sheikh

D. J. Dahigaonkar

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## Abstract

A Fully differential OTA is designed and analyzed in this paper which has Transconductance of 8ms over GHz Frequency range and worked on supply voltage of 1.4V. Previous OTAs seldom worked over 200MHz whereas, the higher frequency OTA can be used as basic building block in several RF as well as microwave applications. The performance analysis of conventional OTA techniques, using advanced process technology that can break the previous frequency barrier is a key objective of this paper. Different topologies of OTA have been studied and analyzed. The appropriate topology which has a perfect balance between complexity and performance is suggested. The research includes analysis and comparison of

OTA topologies from the point of view of effect of technology scaling on various performance parameters such as Gain, Power consumption, Frequency range, supply voltage, temperature, etc. The OTA has been simulated by using ADS Tool with 180nm as target technology.

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### Index Terms

Computer Science

Performance Analysis

**Keywords**

Operational Transconductance Amplifier (ota) Cmos Transconductance Frequency Range.