Abstract

A current-mode universal biquad filter structure using two Current Follower Transconductance Amplifiers is proposed in this paper. And it contains two grounded capacitors. The proposed structure can be configured into single input multiple outputs (MIMO). Using the proposed circuit the realization of all the standard filtering responses such as low pass (LP), band pass (BP), high pass (HP), band reject (BR), and all pass (AP), can be done by choosing the output accordingly. The circuit does not require inverted current input signal(s) and it operates at lower supply voltage rails. The most important, component matching constraints are not required for the circuit. The proposed circuit offers an advantage of electronic tunability of pole-frequency independent to the quality factor. Performances of the proposed circuits were examined through P-SPICE programs on cadence tools using standard CMOS technology.

References

1. C. Toumazou, F. J. Lidgey, and D. G. Haigh, Analogue ICs design: the current-mode
Novel CMOS Current Follower Transconductance Amplifier Current-Mode universal Filter


36. H. Chen, Current-mode dual-output ICCII based tunable universal biquadratic filter with
Novel CMOS Current Follower Transconductance Amplifier Current-Mode universal Filter


42. D. Biolek, V. Biolkova, CDTA-C current-mode universal 2nd-order filter, in proc. of the 5th WSEAS Int. Conf. on APPLIED INFORMATICS and COMMUNICATIONS, Malta, September 15-17, 2005, pp. 411-414.


51. J. Koton, N. Herencsars, K. Vrba, I. Koudar, Fully differential current-mode filters using


59. Xinhua Nie Zhongming Pan, Multiple-input single-output low-input and high output impedance current-mode biquadratic filter employing five modified CFTAs and only two grounded capacitors. Pub. in Microelectronics Journal 44(2013), 802–806.


Index Terms

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Keywords

Biquad, CFTA, Current-mode, Universal, Filter