A Novel Mixed-Mode Current-Conveyor-Based Filter

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Summary

A new mixed-mode biquad circuit is presented. The circuit uses six single-output plus-type second-generation current-conveyors (CCII+s), a single dual-output CCII+, two grounded capacitors, eight resistors, at least two of them permanently grounded, and can realize lowpass, highpass, bandpass, notch, lowpass notch, highpass notch and allpass responses from the same topology. The circuit can be driven by voltage or current and its output can be voltage or current. The parameters omega(0) and omega(0) /Q(0) enjoy independent electronic tunability. Simulation results are included.

References:

1. ABUELMAATTI MT, 1996, ACTIVE PASSIVE ELECT, V17, P245
2. ABUELMAATTI MT, 1996, MICROELECTR J, V27, P471
3. ABUELMAATTI MT, 1999, MICROELECTR J, V30, P287
4. CHANETRAY J, 1994, FRONT BIOM, V2, P89
5. CHANG CM, 1991, INT J ELECTRON, V71, P809
6. CHANG CM, 1991, INT J ELECTRON, V71, P817
7. CHANG CM, 1993, ELECTRON LETT, V29, P1932
8. CHANG CM, 1993, ELECTRON LETT, V29, P2005
9. CHANG CM, 1997, ELECTRON LETT, V33, P1207
10. HIGASHIMURA M, 1991, IEICE T COMMUN, V74, P1017
11. HOU CL, 1997, INT J ELECTRON, V82, P125
12. LATA ZJ, 1997, ANALOG INTEGR CIRC S, V13, P275
13. OZOGUZ S, 1997, ELECTRON LETT, V33, P948
14. PAPAZOGLOU CA, 1997, IEE P-CIRC DEV SYST, V144, P178
15. RAMIREZANGULO J, 1992, IEEE T CIRCUITS-II, V39, P337
16. SENANI R, 1992, INT J ELECTRON, V73, P735
17. SENANI R, 1996, FREQUENZ, V50, P124
18. SOLIMAN AM, 1996, MICROELECTR J, V27, P591

19. SUN YC, 1994, INT J ELECTRON, V76, P91
20. TOUMAZOU C, 1986, ELECTRON LETT, V22, P662
21. TOUMAZOU C, 1990, ANALOGUE IC DESIGN C

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