

عنوان مقاله:

Optimizing the Design of a Switched-Capacitor Dynamic-Element-Matching Amplifier

محل انتشار:

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خلاصه مقاله:

In this paper an optimization on recently designed switched-capacitor dynamic- element- matching amplifier is presented. The main advantage of our amplifier is its output independency with respect to input common mode voltage (theoretically infinite common mode rejection ratio). The main problem of this circuit is switch-charge injection that decreases the suppression of low frequency interference (main supply). The performance of the circuit has been improved by optimum design of the switches and measuring two different offsets to enable improved auto-calibration. For experimental evaluation of the amplifier, a test chip has been designed and realized in 0.7 μ m standard CMOS technology. The experimental result shows 1.6 μ V input referred noise and 3E-4 relative gain error that is small enough for thermocouple readout and many other applications.

کلمات کلیدی:

Dynamic-Element-Matching Amplifier, Switch Charge Injection, Common Mode Rejection, Optimization

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