

عنوان مقاله:

A Novel Fully Differential Second Generation Current Conveyor and its application as a very High CMRR Instrumentation Amplifier

محل انتشار:

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خلاصه مقاله:

This paper aims to introduce a novel design of a Fully Differential second generation Current Conveyor (FDCCII) and its application to design a Low Power (LP), very high CMRR, wide band-width Current Mode Instrumentation Amplifier (CMIA). In the proposed circuit, CMRR as the most important property of IA has been greatly improved using a common mode feed forward (CMFF) and common mode feedback (CMFB) techniques verified by a perfect circuit analysis. The FDCCII has been designed using 0.18 μm TSMC CMOS Technology with $\pm 1.2\text{ V}$ supply voltages. The simulation of the proposed FDCCII and CMIA have been done in HSPICE LEVEL 49 that achieves for CMIA; a voltage CMRR of 216 dB, voltage CMRR bandwidth of 300 Hz, and differential voltage gain bandwidth of 18.1 MHz. Intrinsic resistance of X-terminals is only 45 Ω . The IA's power dissipation is 383.4 μW

کلمات کلیدی:

Current-mode, Instrumentation amplifier, CMIA, fully differential second generation current conveyor (FDCCII), Very High CMRR

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