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Analog / Mixed-Signal IC Design and Testing Based on Mathematics

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Abstract. This paper presents that techniques of mathematics, such as number theory, statistics, coding theory, modulation, control theory, and signal processing algorithms besides transistor-level circuit design/design-for-test are required to enhance the performance of analog/mixed-signal circuit performance as well as their low-cost and high-quality testing. Several research examples in the author's laboratory are shown as listed in the references.

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