# ANALOG SWITCHES BASED ON MOS TRANSISTORS IN SUB-MICRON TECHNOLOGIES

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***Abstract.*** *This paper is meant to present a study of MOS transistors usage in analog switches integrated circuits. MOS transistors' parameters, technology factors and topologies for switches are presented, based on the literature synthesis. The study continues by exposing a few improved switches architectures and their migration in sub-micron process technologies. These are part of the preliminary accomplishments of the first author's PhD thesis.*

**Keywords:** analog switches, MOS transistors, serial controller, sub-micron CMOS process

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## 1. Introduction

Nowadays technological advancements are possible due to the extraordinary developments in the fields of electronics and microelectronics. These industries' evolution was determined by the continuous progress in manufacturing CMOS technologies, stringent requirements of recent applications and design of up-to-date mixed signal circuits architectures. Sub-micron CMOS process technologies brought cost reduction of complex architectures [1]. Mixed signal integrated circuits are extensively designed, implemented and sold for satisfying tight requirements enabling easier integration in embedded systems.

Digitally controlled, analog switches represent a category of mixed signal circuits widely used in the automotive and aviation industries, in test, control equipments, in signal processing systems, etc [2-3].

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