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Nota di contenuto	DAC Fundamentals and Interleaving Concepts -- Time Interleaving DAC -- Analog Multiplexing DAC -- Frequency Interleaving DAC.
Sommario/riassunto	Modern complementary metal oxide semiconductor (CMOS) digital-to-analog converters (DACs) are limited in their bandwidth due to technological constraints. These limitations can be overcome by parallel DAC architectures, which are called interleaving concepts. Christian Schmidt analyzes the limitations and the potential of two innovative DAC interleaving concepts to provide the basis for a practical implementation: the analog multiplexing DAC (AMUX-DAC) and the frequency interleaving DAC (FI-DAC). He presents analytical and discrete-time models as a theoretical foundation and develops digital signal processing (DSP) algorithms to compensate the analog impairments. Further, he quantifies the impact of various limiting parameters with numerical simulations and verifies both concepts in laboratory experiments. Contents DAC Fundamentals and Interleaving Concepts Time Interleaving DAC Analog Multiplexing DAC Frequency

Interleaving DAC Target Groups Scientists and students in the fields of communications engineering, microwave engineering, circuits and systems, and electrical engineering Practical working engineers in these fields About the Author Christian Schmidt works at the Fraunhofer Heinrich-Hertz-Institute, Berlin, Germany, on innovative solutions for broadband signal generation in the field of optical communications. The studies for his dissertation were carried out at the Technische Universität Berlin and at the Fraunhofer Heinrich-Hertz-Institute, both Berlin, Germany.