

A Translinear Current-Mode Programmable Analog Exponential Function Synthesizer

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Summary

A new circuit configuration is presented for synthesis of analog exponential functions. The proposed circuit is based on approximating the exponential function using rational functions. The circuit is flexible and can synthesize any exponential function, to any degree of accuracy, once its rational-function approximation is obtained. The proposed circuit uses only bipolar transistors and current-sources and is, therefore, very attractive for integration. SPICE simulation results are included.

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