High Performance Analog Circuits on "Digital" Process

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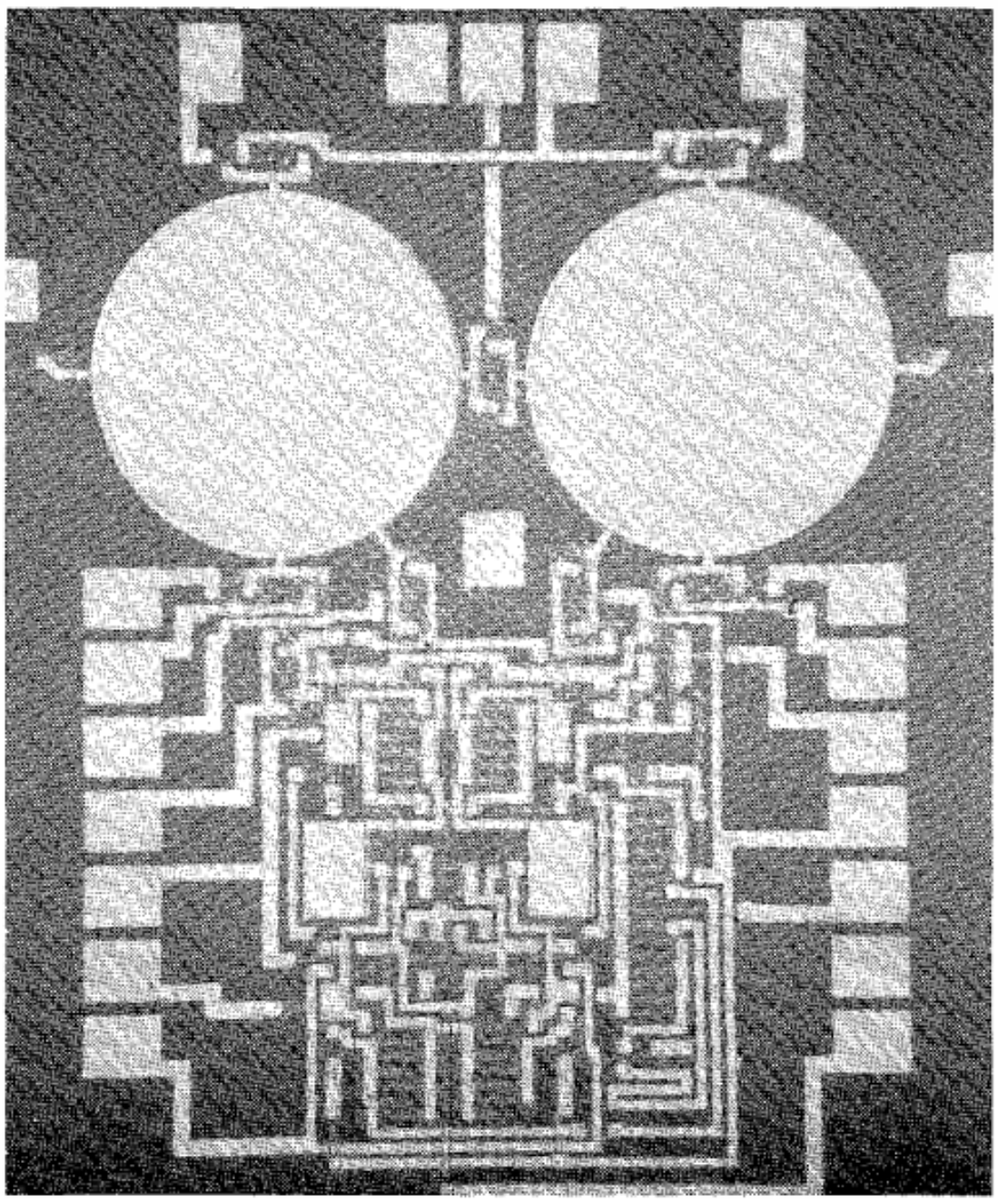

An All-MOS Charge-Redistribution A/D Conversion Technique

AN ALL-MOS charge-redistribution analog-to-digital converter provided high accuracy, low power, and most importantly, compatibility with digital MOS technology. The key MOS analog circuits are a charge-redistribution digital-to-analog converter using two matched capacitors and an offset-cancelled voltage comparator. Digital circuits are used for data storage, and sequence and control logic. The fabricated ADC demonstrated 8-bit accuracy using 25pF polysilicon-oxide-p^+ linear MOS capacitors that achieve a 50^{th} percentile mismatch of 0.06%.

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