A Continuously Adjustable Video-Frequency Current Amplifier for Filter Applications

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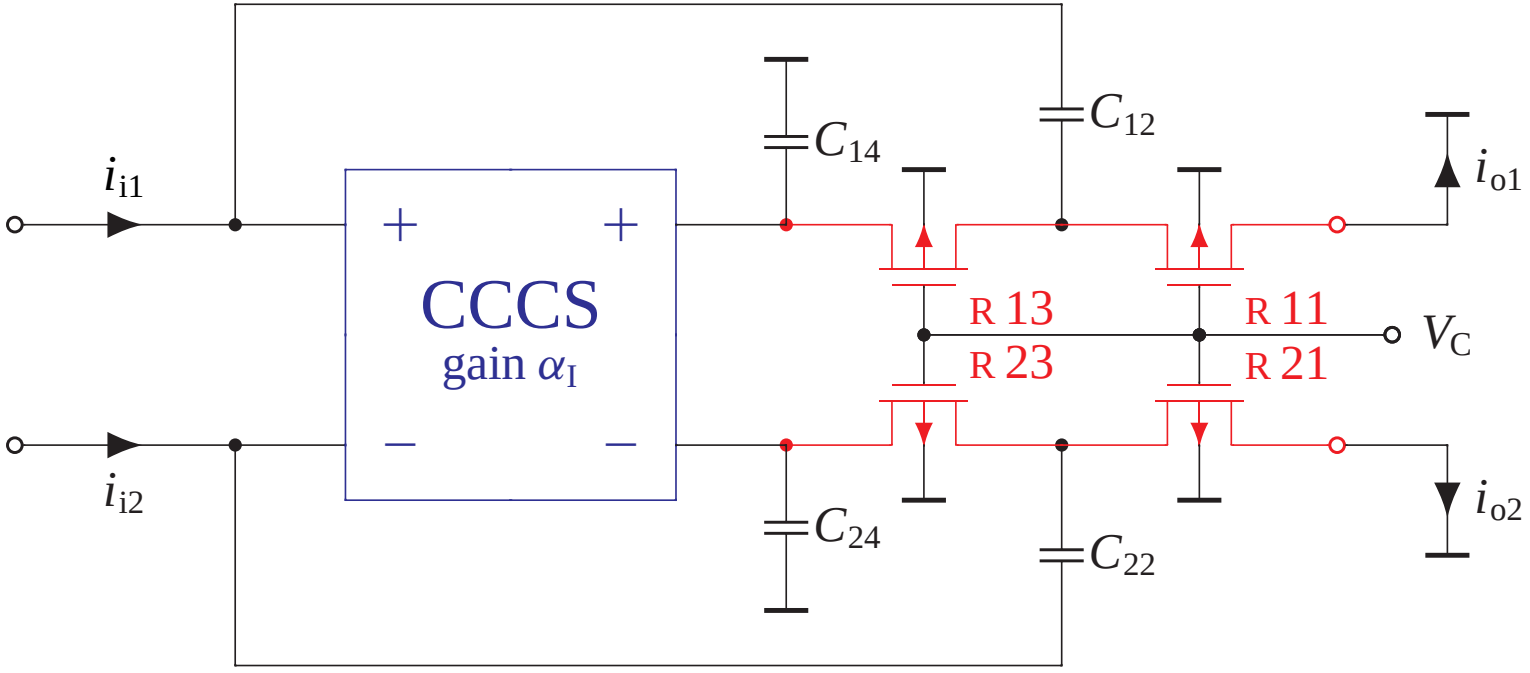
CASE STUDY: What can you get "for free"?

How much more can you get if you fight for it?

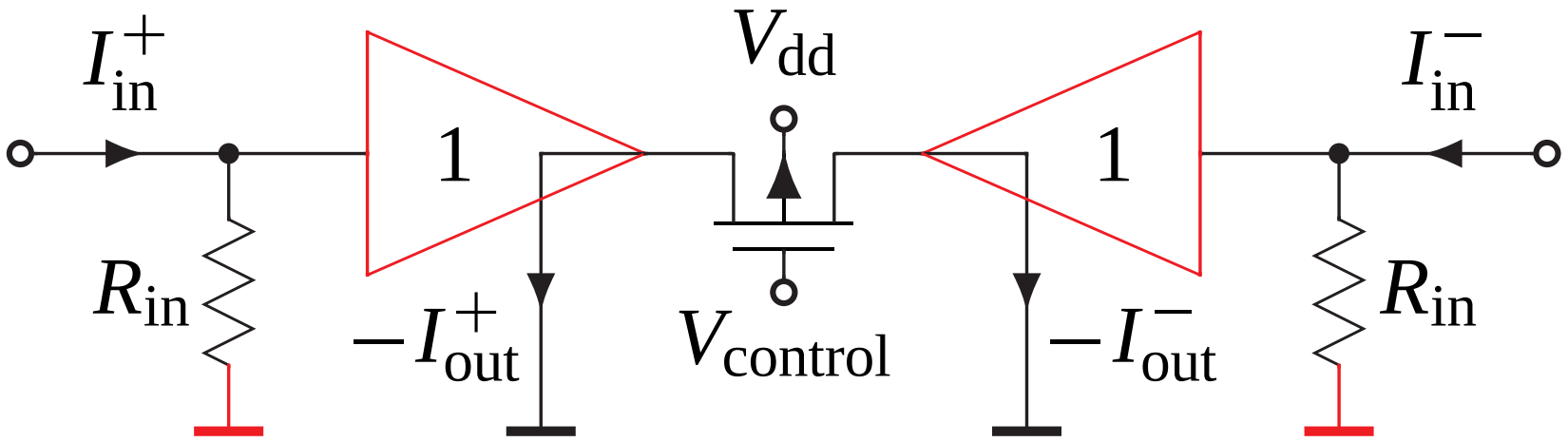
ECCTD 1999, August 31, Stresa, Italy.

MOSFET–C second-order lowpass filter



[from our ISCAS '99 poster]

Concept of the adjustable CCCS



Note: this CCCS contains four voltage buffers.

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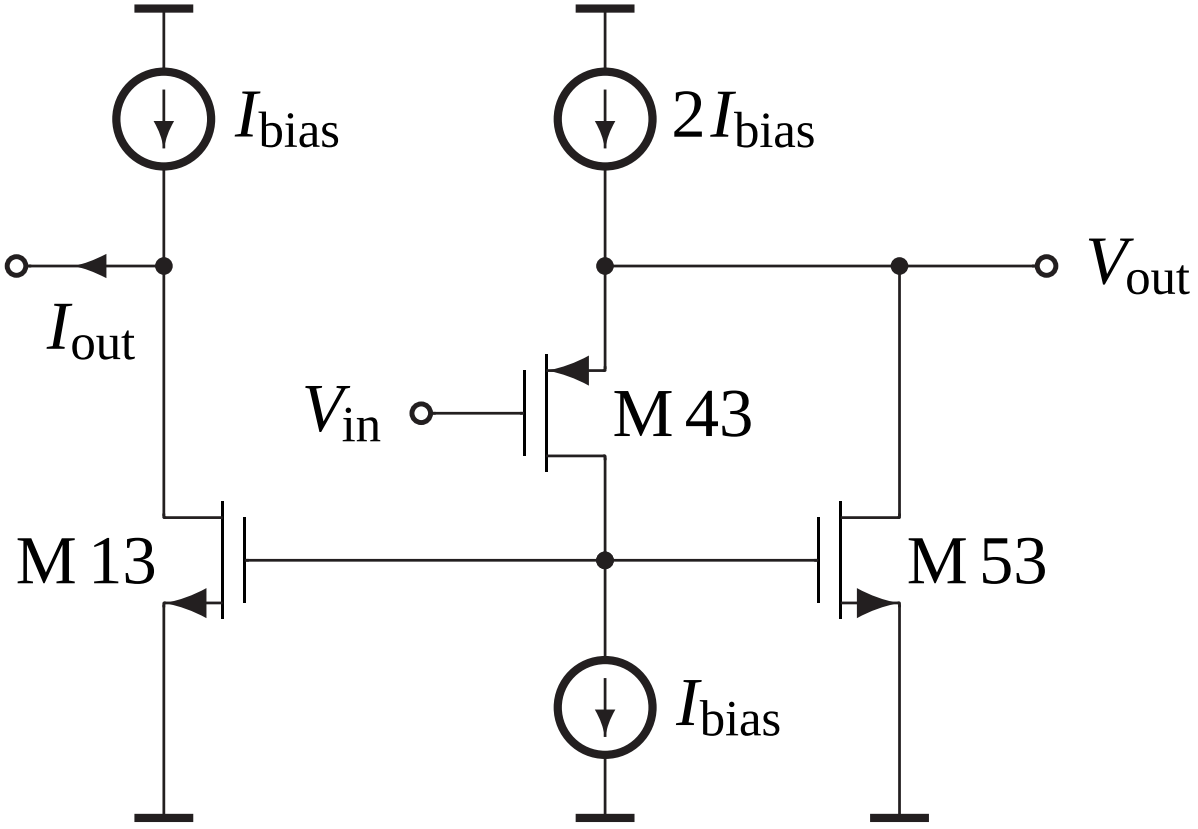
Voltage buffer with level shift



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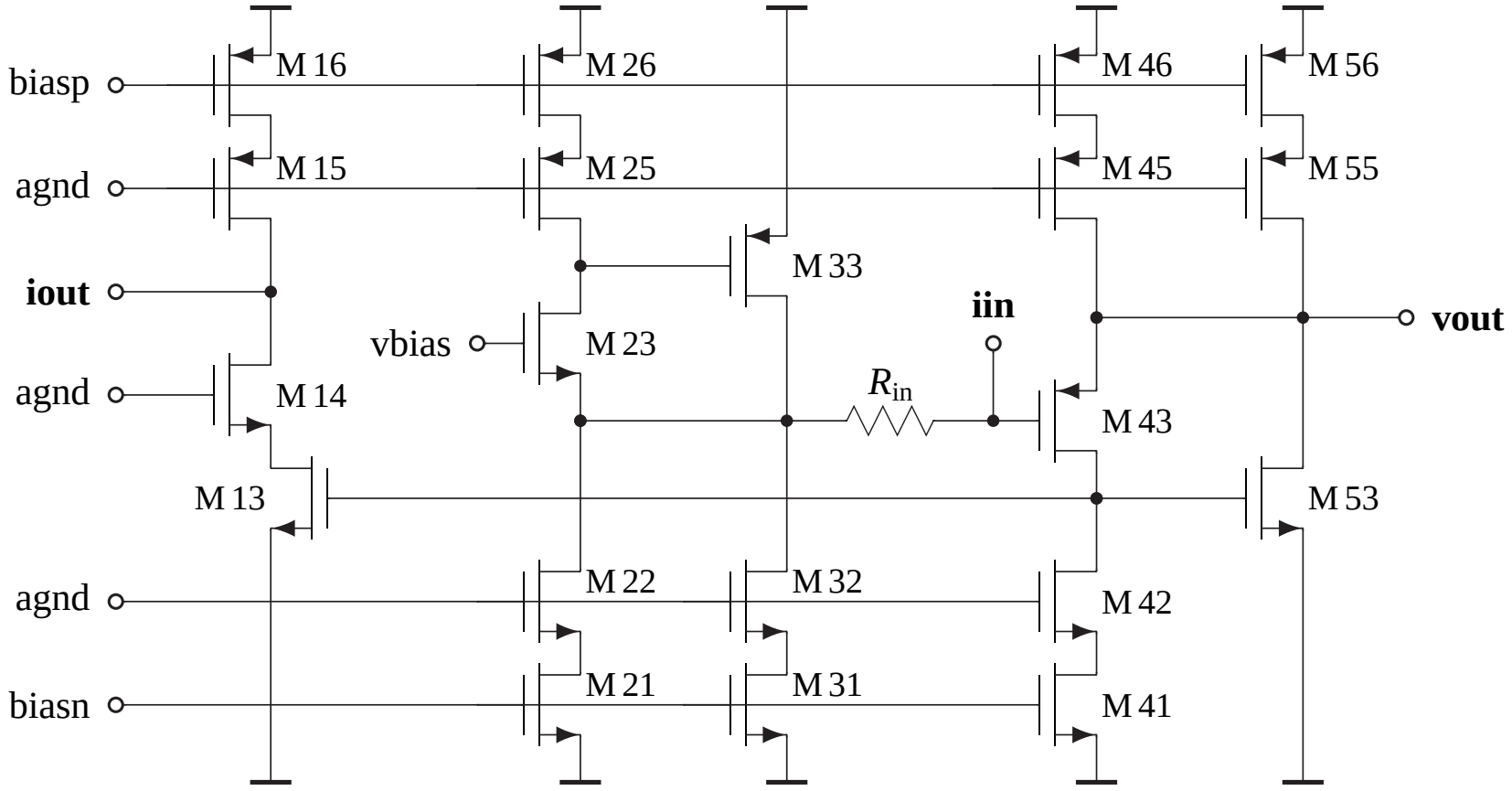
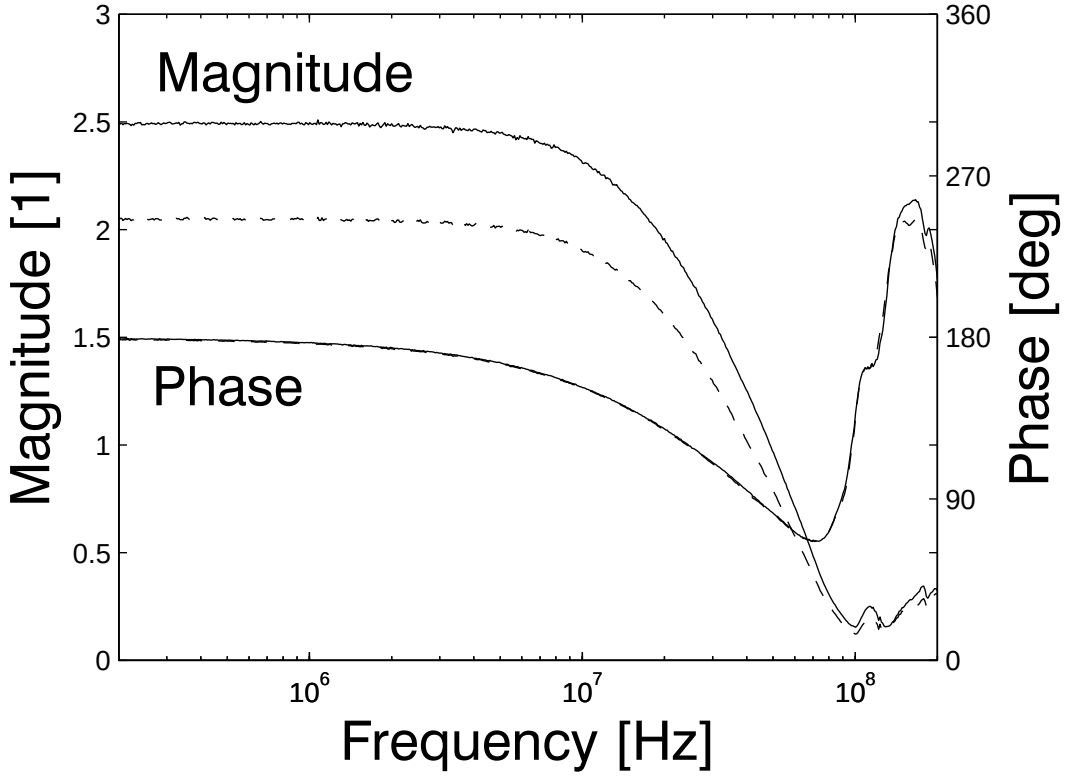
Adjustable CCCS: Half-circuit schematic

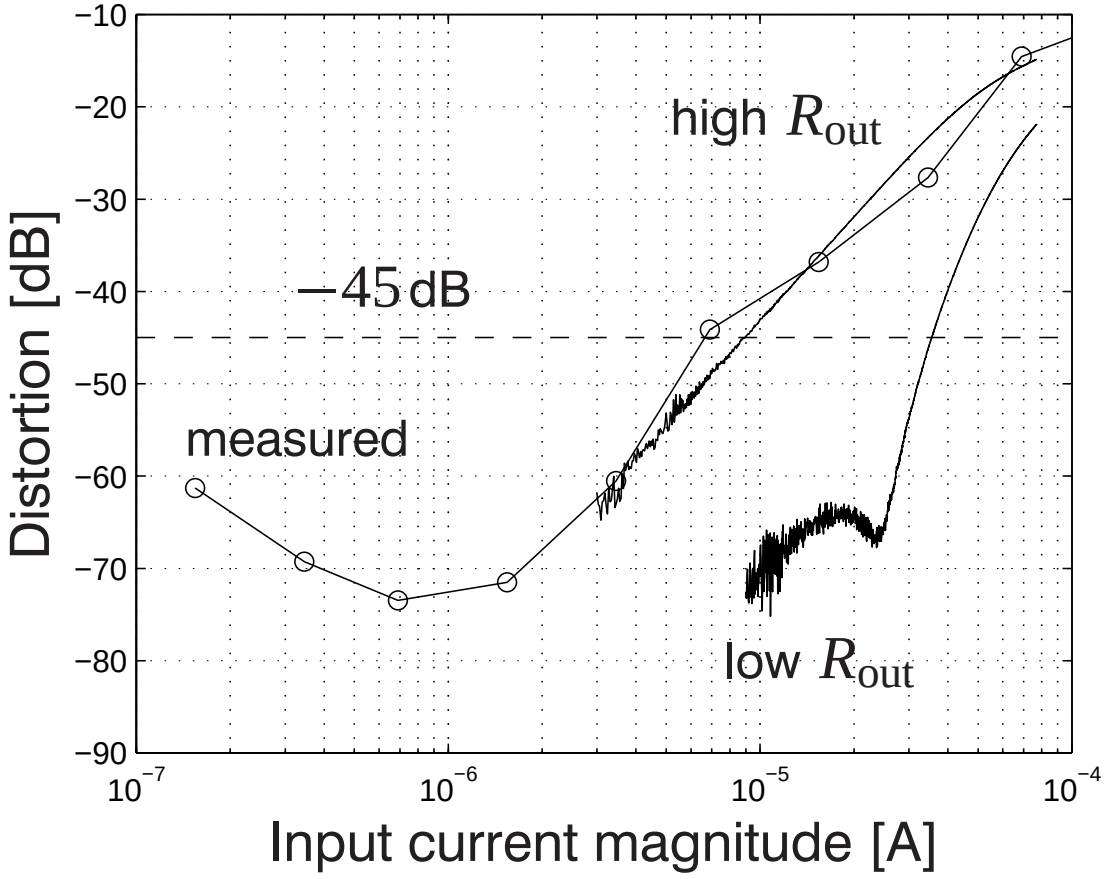


Measured transfer function

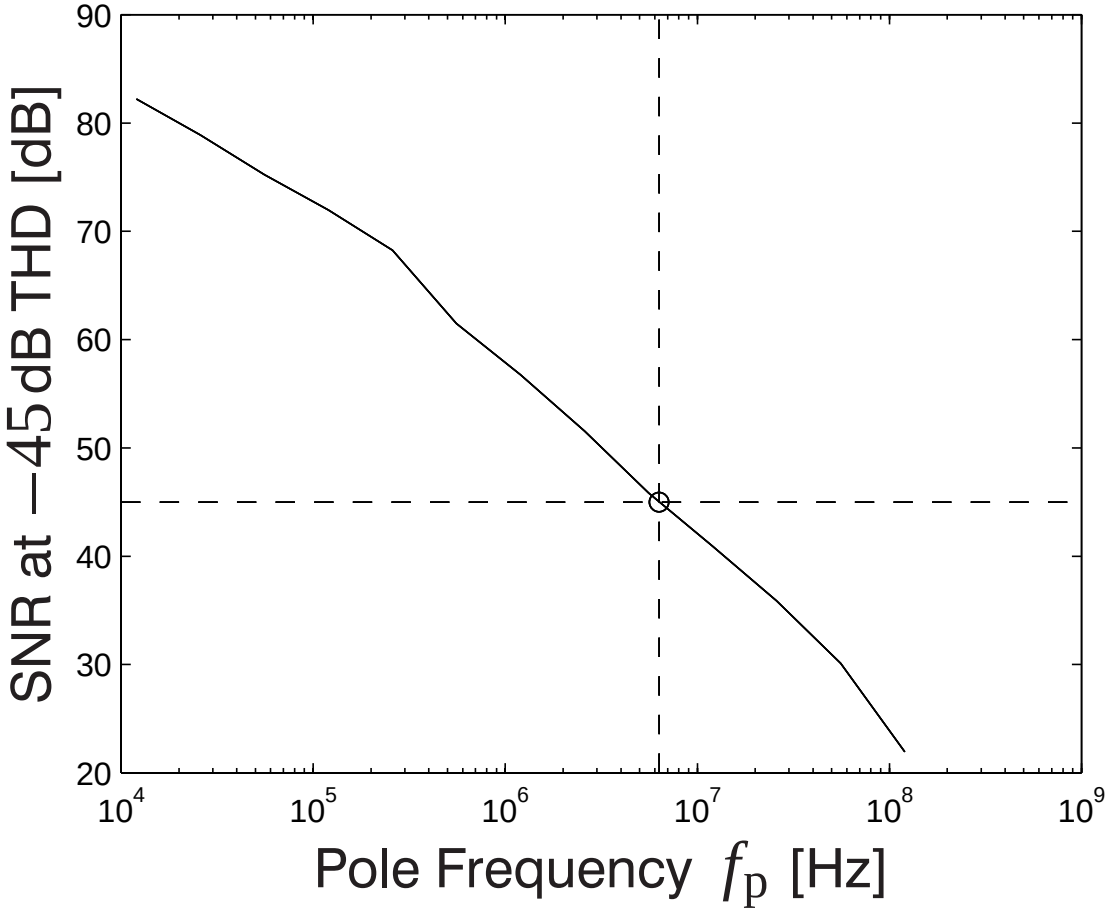
for $V_{\text{control}} = -1.65\,\text{V}$ and $V_{\text{control}} = -1.30\,\text{V}$ (dashed)



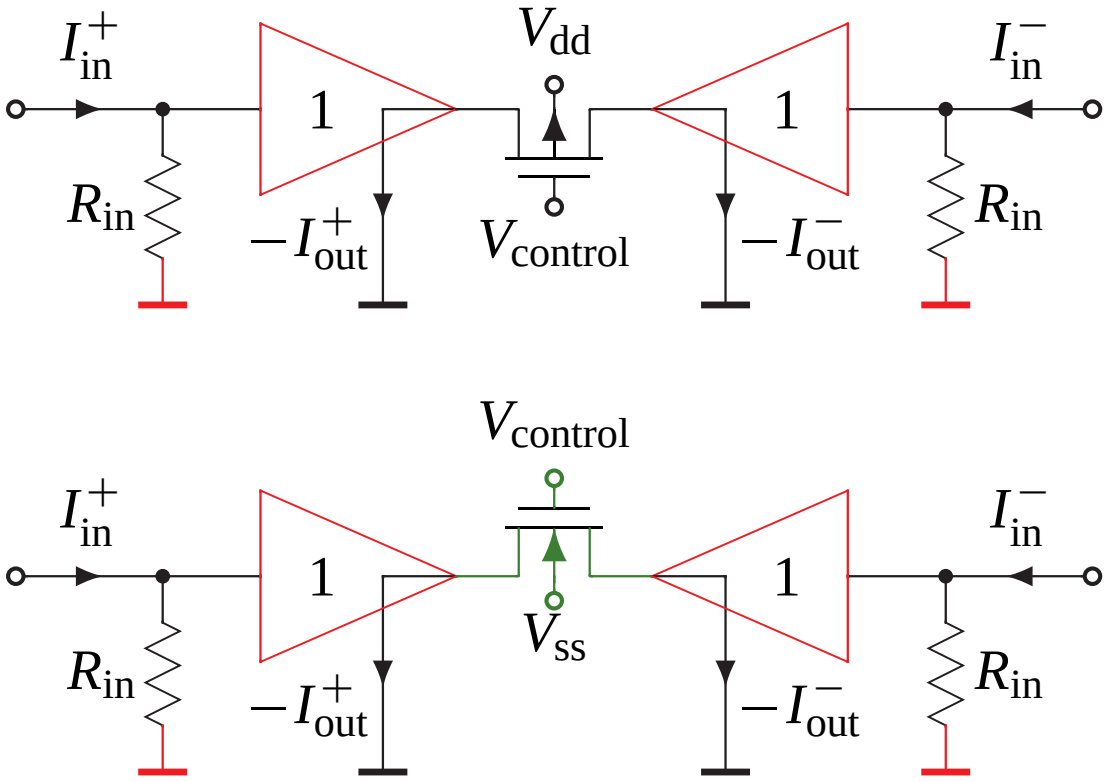
Measured and simulated THD

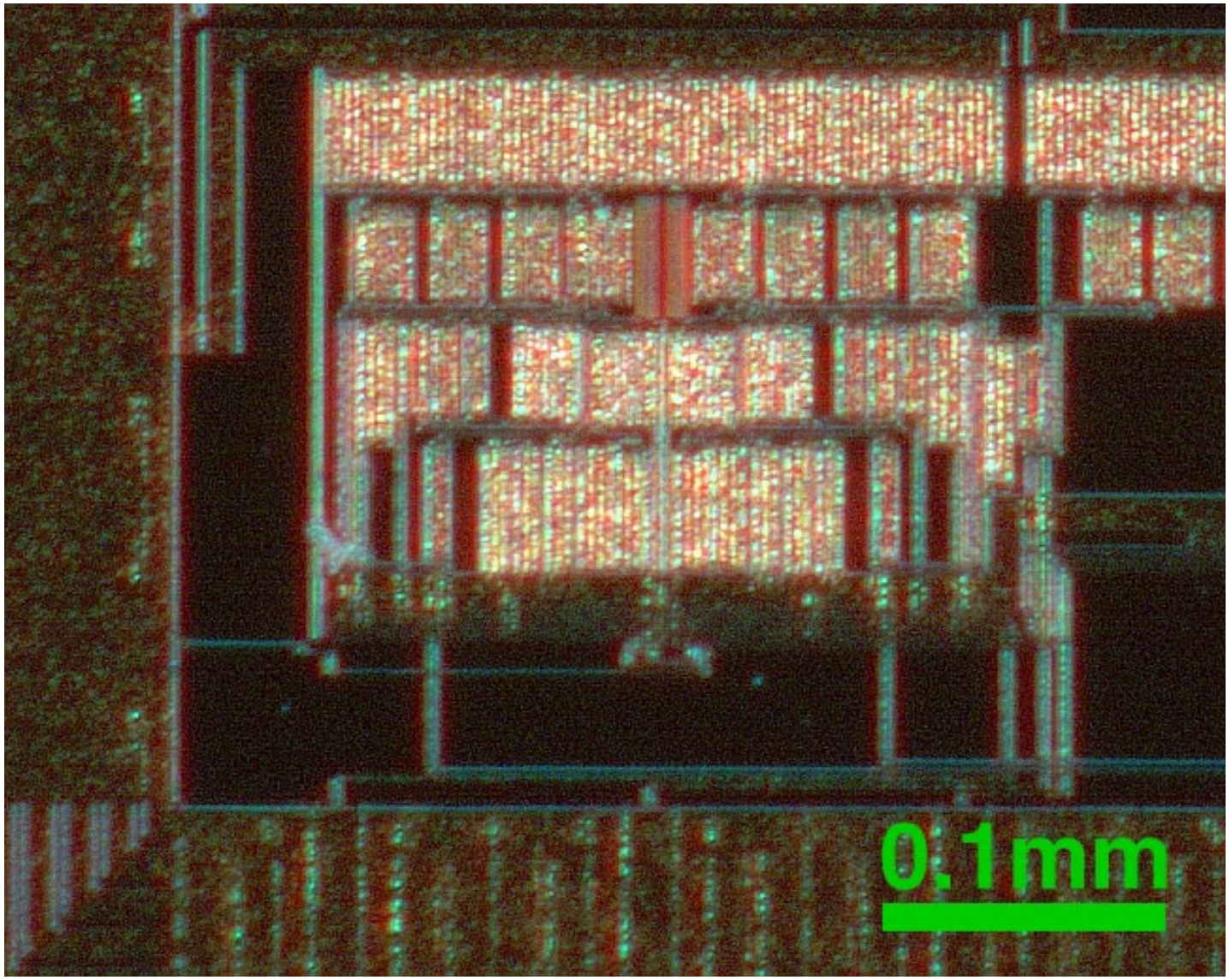


SNR in function of the pole frequency



Charge-pumped control signal

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