Abstract

With ever decreasing length of CMOS devices demand for low power and high speed circuits used in analogue and RF applications proliferates day by day. There is prominent effect of noise on overall performance of these circuits. Dominant contribution comes from thermal noise among all the noise sources. Thermal noise is a function of noise resistance. With present work optical effect on noise resistances is investigated and compared with dark condition. Result shows reduction in noise resistance and hence optimum source admittance.
of the MOSFET. Mathematical model of noise resistance modified due optical effect is developed and simulated with MATLAB

References

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- D. M. Kim, 'Photonic High-frequency Capacitance-Voltage Characterization of Interface states in Metal-Oxide-Semiconductor Capacitors', IEEE Transactions on Electronics Devices, Vol.49, No.3, March 2002 0.1 0.2 0.3 0.4 0.5 0 0.5 1 1.5 2 2.5 f/f NF min Minimum Noise Figure Vs Normalised Frequency dark Pop(2.5mW)
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Index Terms

Computer Science

Computational Intelligence

Keywords
Optical  MATLAB  MOSFET  Modeling  Noise