

EE 142 Lab 0 Report - Agilent ADS Introduction

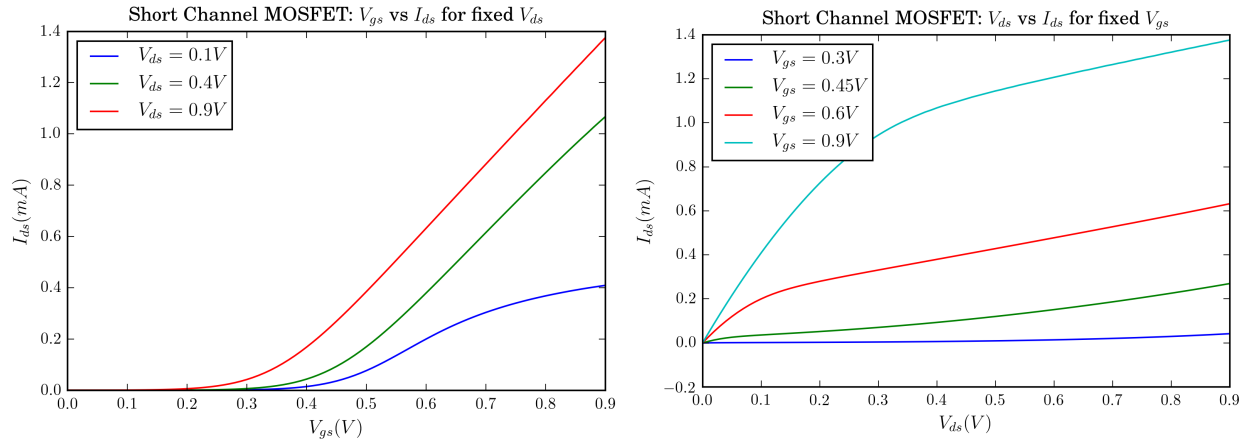
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1 DC Simulation

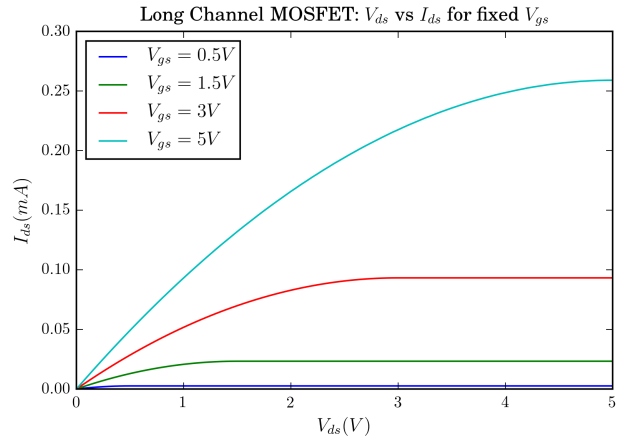
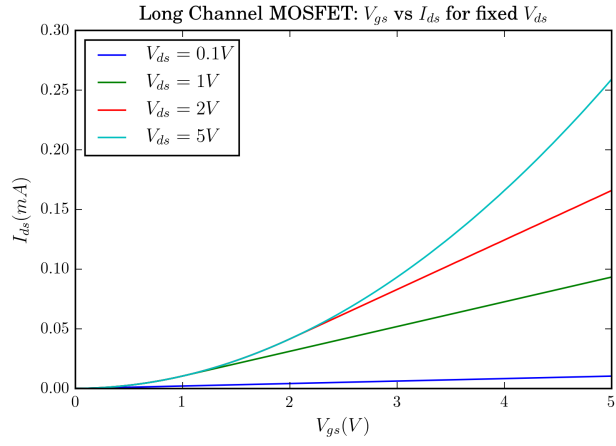
I setup a DC simulation to characterize the Predictive Transistor Model (PTM) BSIM4 MOSFET device. It's nominal supply is $V_{DD} = 0.9V$ and we sweep its V_{DS} and V_{GS} and record the drain current I_{DS} reported by the model.

1.1 I_{ds} vs V_{gs} and I_{ds} vs V_{ds}



1.2 Long-Channel vs. Short-Channel MOSFETs

I used the built-in/default Level 3 MOSFET model in ADS to represent a typical long-channel MOSFET model. Its I-V curves are plotted below.



A Example