

# E6312: Problem Set 1

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February 12, 2013

## 1 Problem 1

### 1.0.1 Part 1

In this simulation I aimed to plot  $I_{DS}$  vs.  $V_{GS}$  for my nMOS at  $V_{DS} = 0.9V$ . To do this I set up a DC simulation where I swept  $V_{GS}$  from 0V to 2V while plotting the current at the drain ( $I_{DS}$ ) as my output. I chose this range because it shows the full progression of the device from weak inversion to strong inversion. My plotted output can be seen in Figure 1.

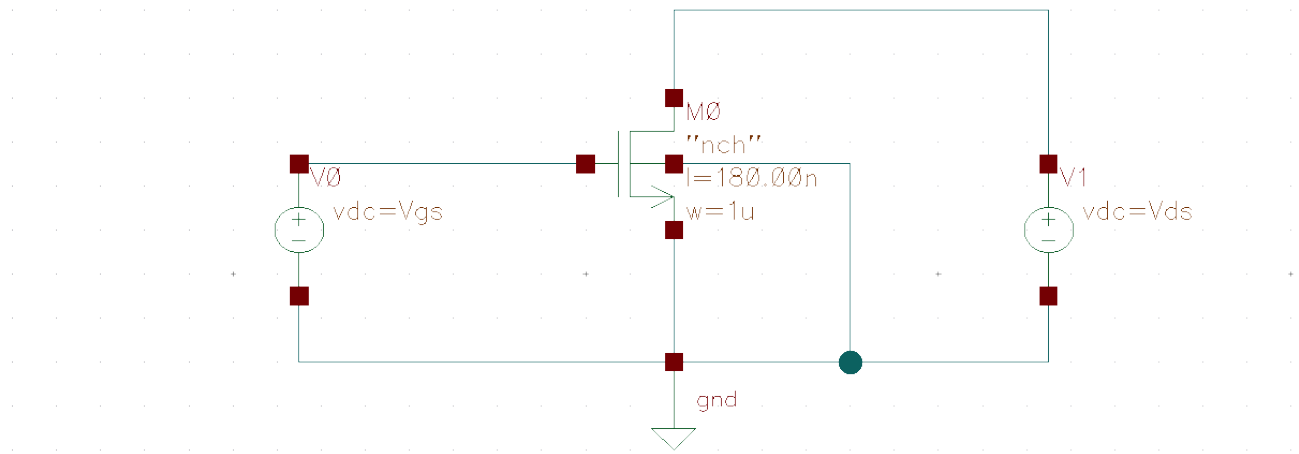


Figure 1:  $I_{DS}$  vs.  $V_{GS}$  for an nMOS at  $V_{DS} = 0.9V$