The University of Windsor

ELEC2250: Physical Electronics

Summer 2020

Lab Eight

Study of MOSFET I-V Characteristics

Friday, August 7, 2020
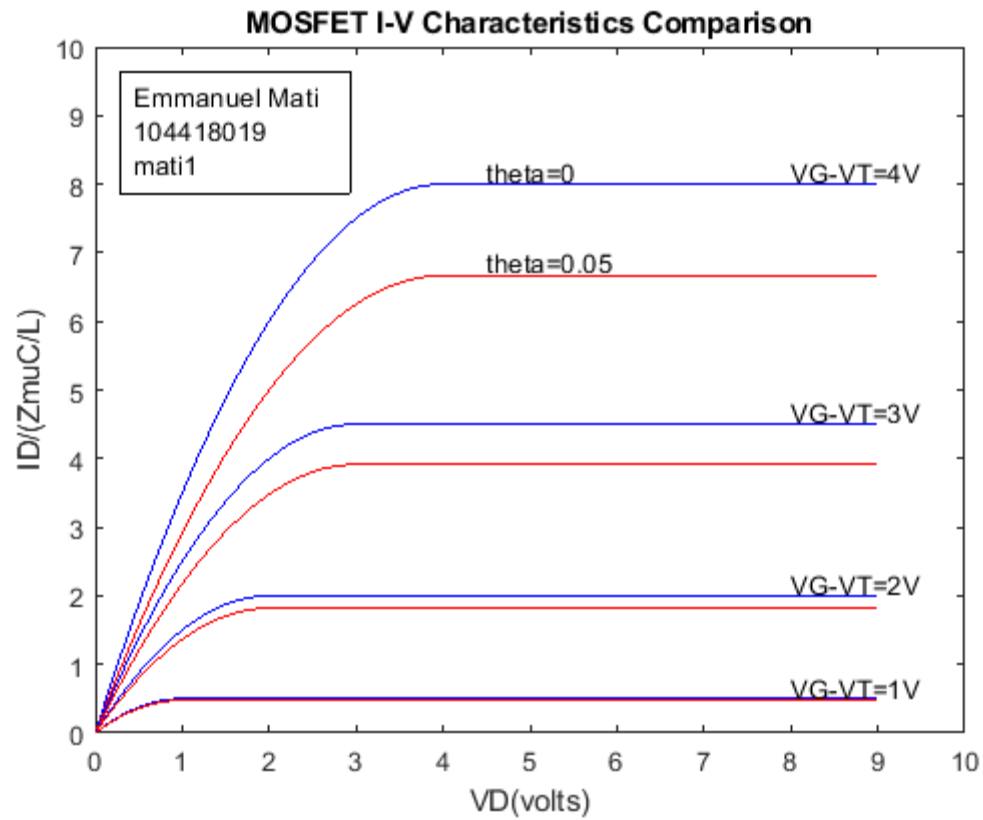
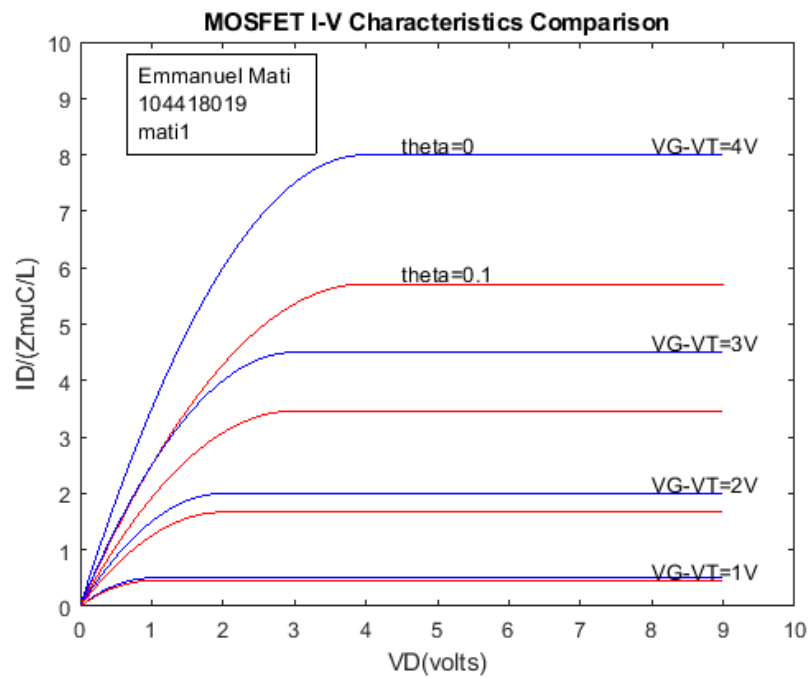Emmanuel Mati

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Graphs
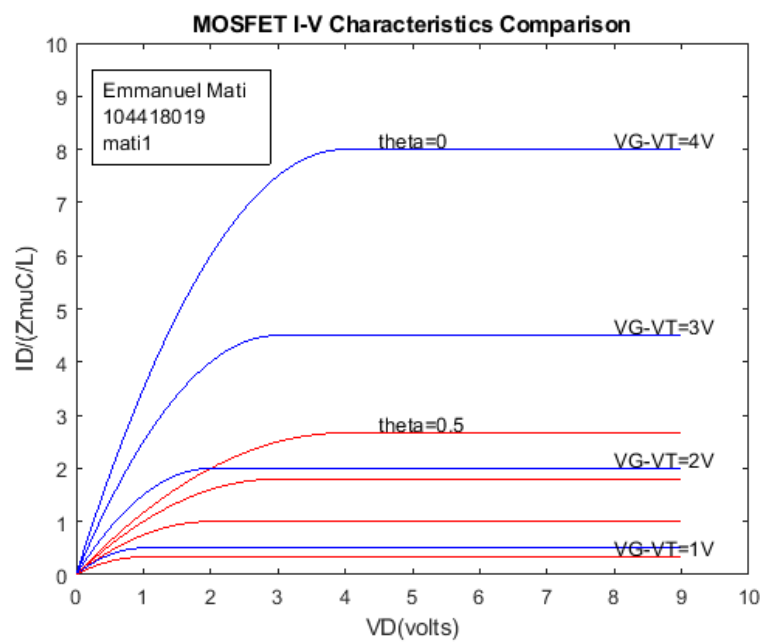
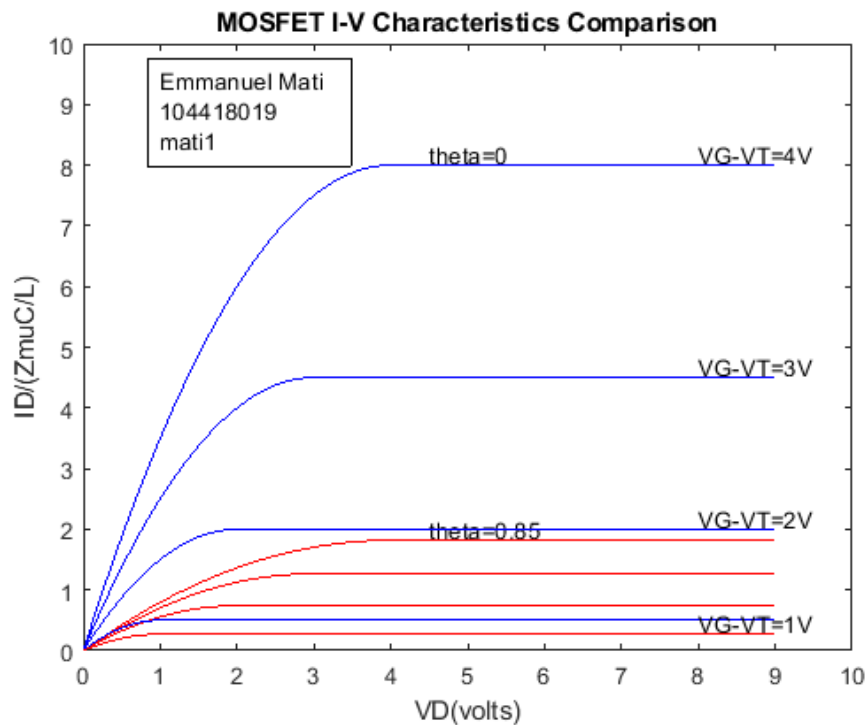*Refer to the MATLAB code attached to this submission*

Theta-Ꙩ set to default 0.05

Theta-Ѳ set to 0.1

Theta-Ѳ set to 0.5

Theta-Ө set to 0.85

MOSFET I-V Characteristics Comparison

Discussion

Throughout our experiment, it can be observed that increasing the mobility degradation parameter decreased the I-V current characteristic when compared to the I-V current characteristic without mobility degradation. These results are further amplified when mobility degradation gets even larger. Due to these results we can say that mobility degradation is inversely proportional to the I-V current's characteristic. Overall, these results were expected as the whole purpose behind mobility degradation is to degrade the current.