**Simulation Report 1**

Yifu Huang

**Codes for plotting and problem solving:** <https://github.com/yifuhhh/EE396V_TFT>

1. Transfer curve and output curve

手机屏幕截图

描述已自动生成

Figure 1. Transfer curve

手机屏幕截图

描述已自动生成

Figure 2. Output curve

1. Field effect mobility plot

图片包含 游戏机

描述已自动生成

In this model, the size parameters are as following:

* tSiO2 = 0.1 um
* tIGZO = 0.02 um
* Z = 180 um
* L = 30 um
* CG­ = 3.45e-4 F/m2
* VT = 2.23 V (Given by Fig. 3)

手机屏幕截图

描述已自动生成

Figure 3. Solve for threshold voltage

The output conductance gd is given by the slope of ID – VDS in linear region. Here, the output conductance under VGS ranging from 0 to 20 V is shown as Fig. 4.

手机屏幕截图

描述已自动生成

Figure 4. Solve for output conductance under different VGS

Finally, the effective mobility plot is shown as Fig. 5.

手机屏幕截图

描述已自动生成

Figure 5. Mobility