CIRCUIT DIAGRAM

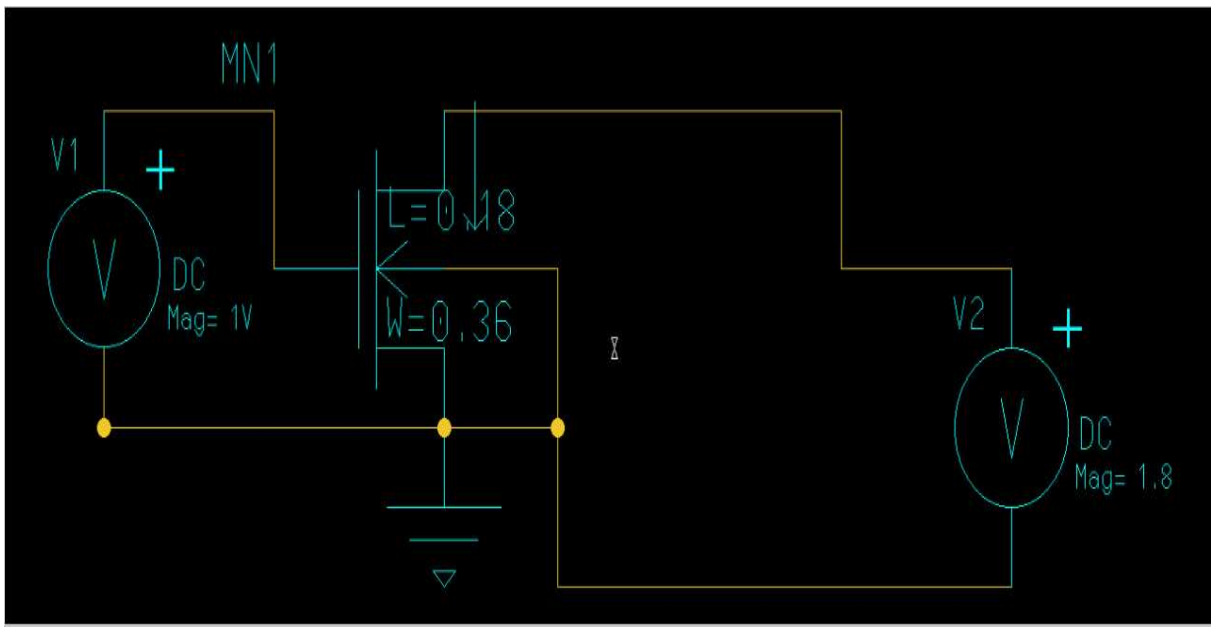


Fig 1. NMOS

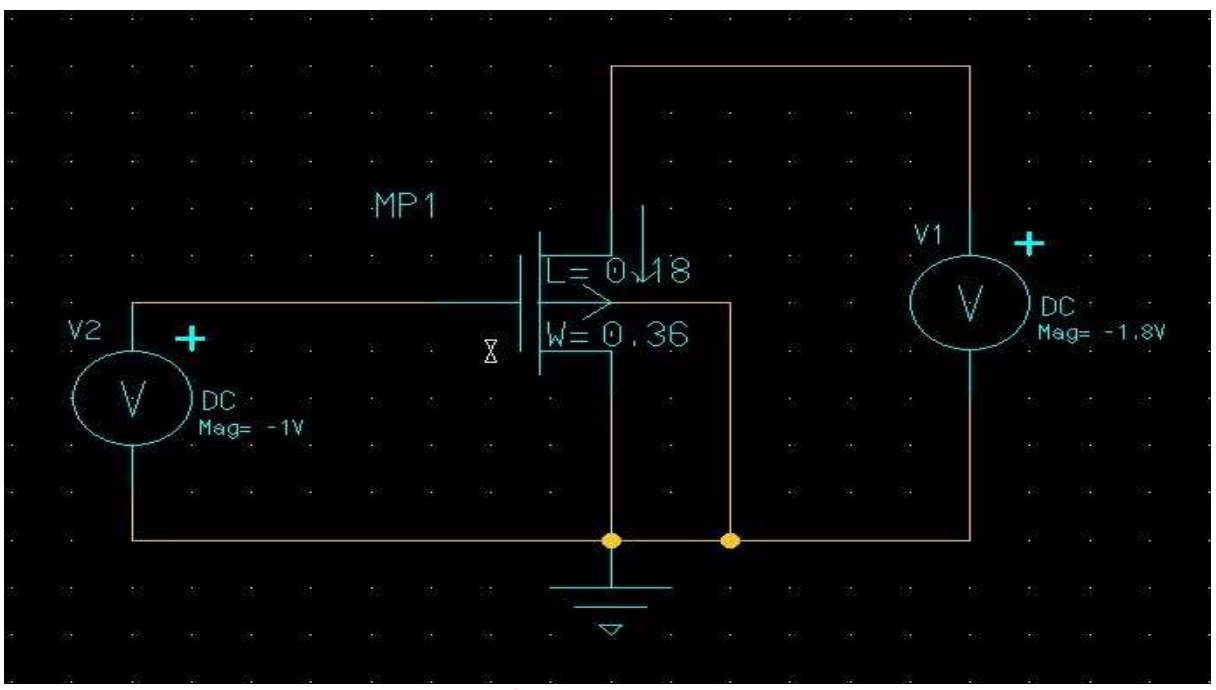
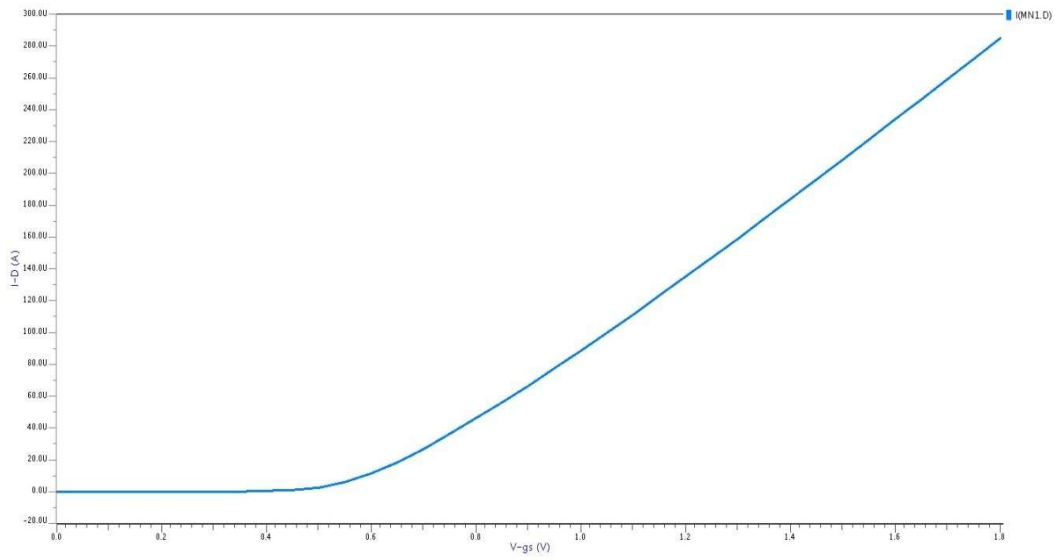


Fig 2. PMOS

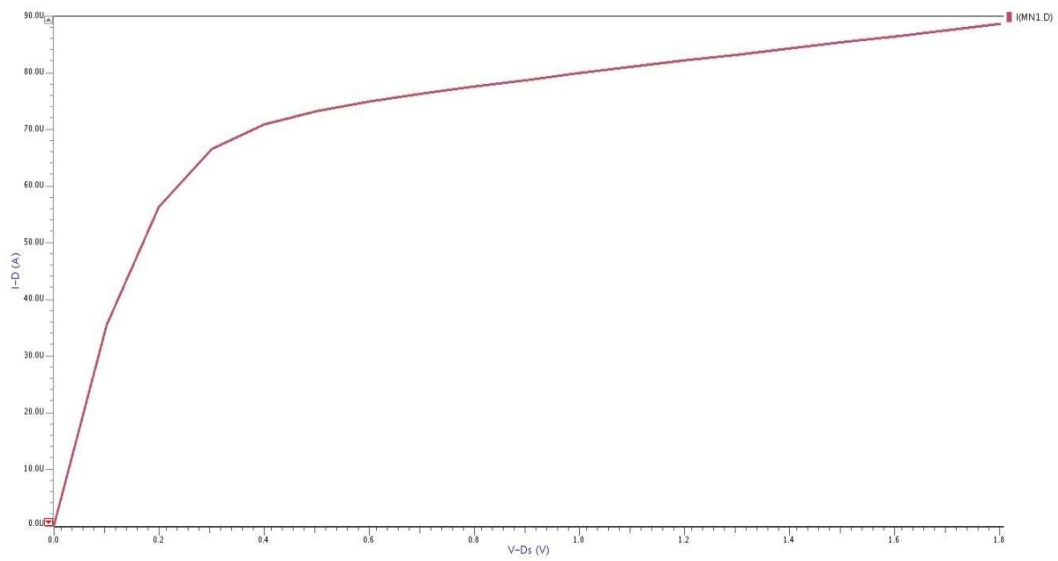
Results

NMOS(180nm)

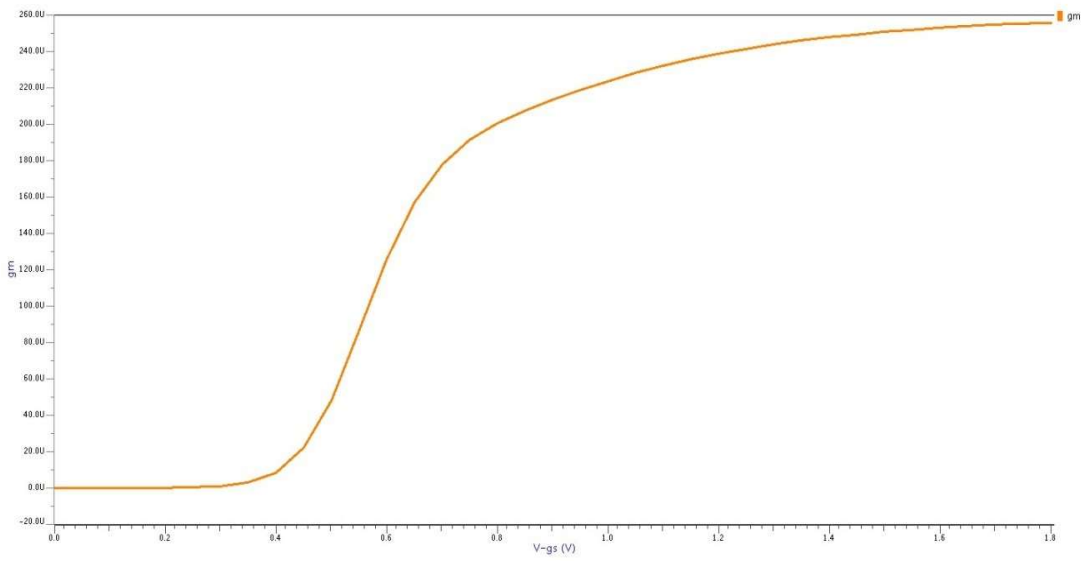
Id V/s Vgs



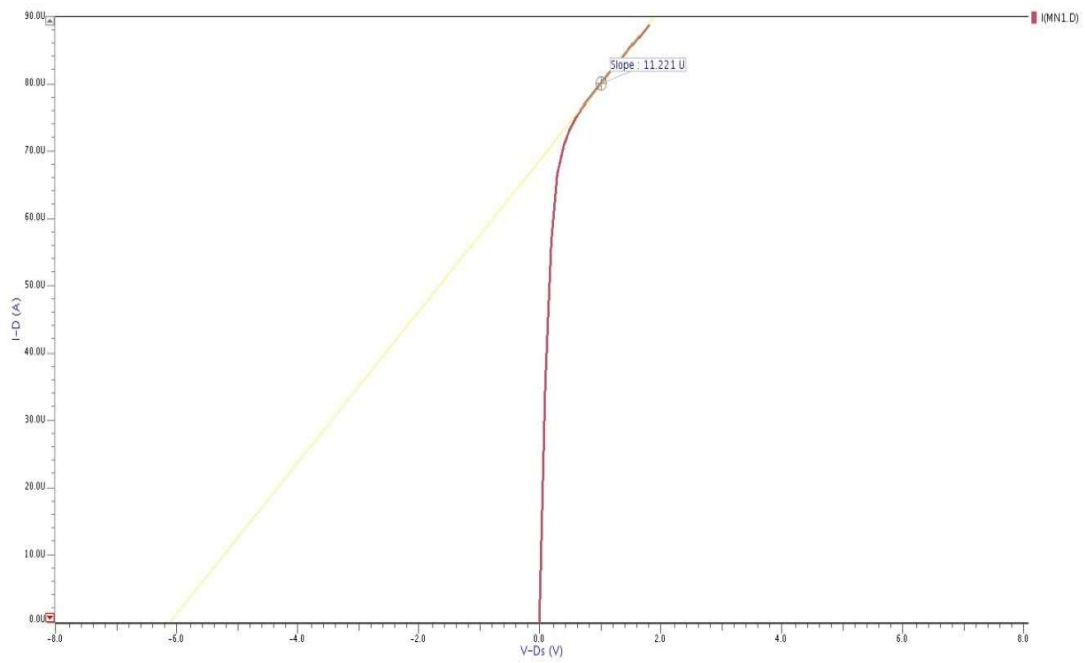
Id V/s Vds



gm V/s Vgs



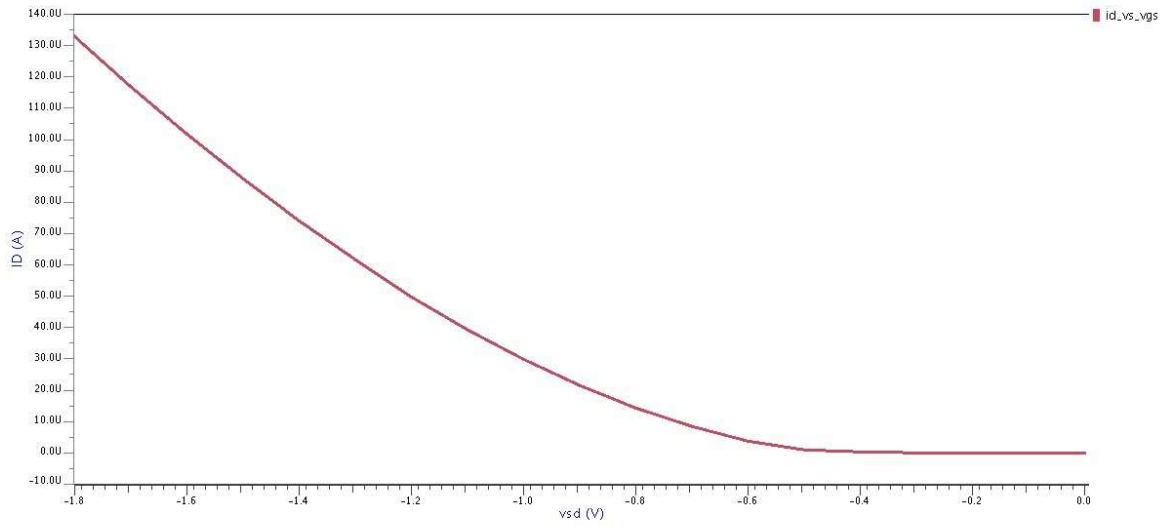
Early Voltage



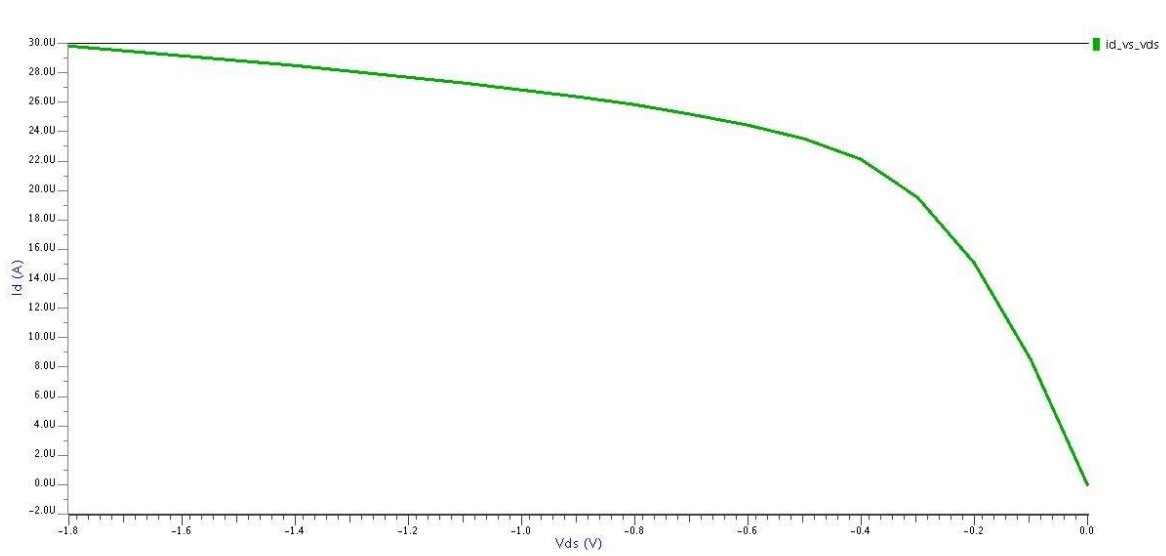
180 nm(W/L=2)

Output Transconductance = g_0 = 11.211 uA/V
Early Voltage = V_a = 6.89V
Channel Length Modulation Factor = λ = 0.145 V^{-1}
Output Resistance = R_0 = 89118.6ohm
Drain Current at saturation point = I_d = 79.323uA
Vgs-Vth = 1.033V
u_nC_{ox} = 74.33 uA/V^2

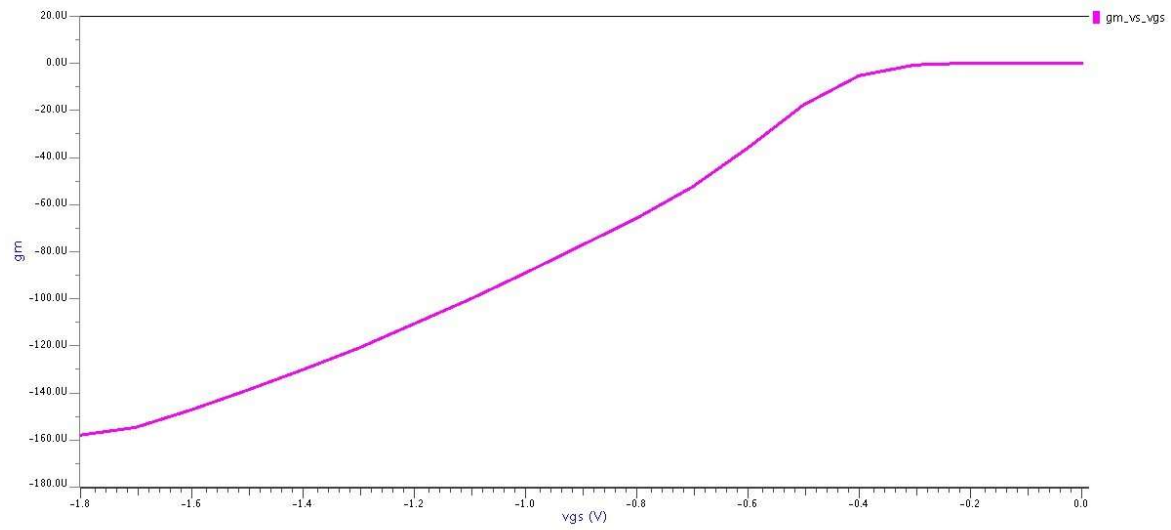
PMOS(180nm)



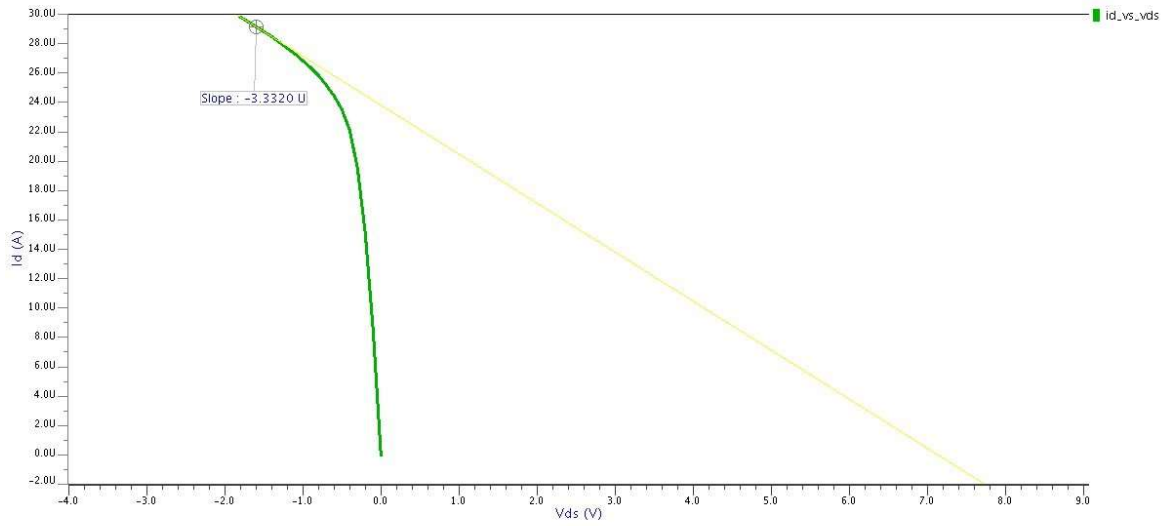
Id V/s Vgs



Id V/s Vds



Gm V/s Vgs



Early Voltage

Output Transconductance = g_0 = 3.332 uA/V
Early Voltage = V_a = 6.98V
Channel Length Modulation Factor = λ = 0.143 V^{-1}
Output Resistance = R_0 = 300120.04ohm
Drain Current at saturation point = I_d = 29.296uA
Vgs-Vth = 1.475V
u_nC_{ox} = 13.465 uA/V^2

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