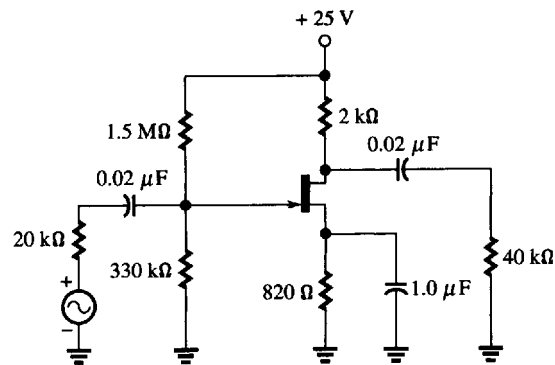


Electronics II

Frequency analysis

P. Stallinga

The figure shows an amplifier based on an FET in the common-source configuration



$$R_i = 20 \text{ k}\Omega, R_L = 40 \text{ k}\Omega, R_{G1} = 330 \text{ k}\Omega, R_{G2} = 1.5 \text{ M}\Omega, R_D = 2 \text{ k}\Omega, R_S = 820 \Omega,$$

$$C_i = C_L = 20 \text{ nF}, C_S = 1 \mu\text{F}, C_{gs} = 4 \text{ pF}, C_{ds} = 0.5 \text{ pF}, C_{gd} = 1.2 \text{ pF},$$

- Determine the mid-frequency gain of the complete circuit.
- Schematically draw Bode plots of the behavior of the circuit in terms of frequency.