

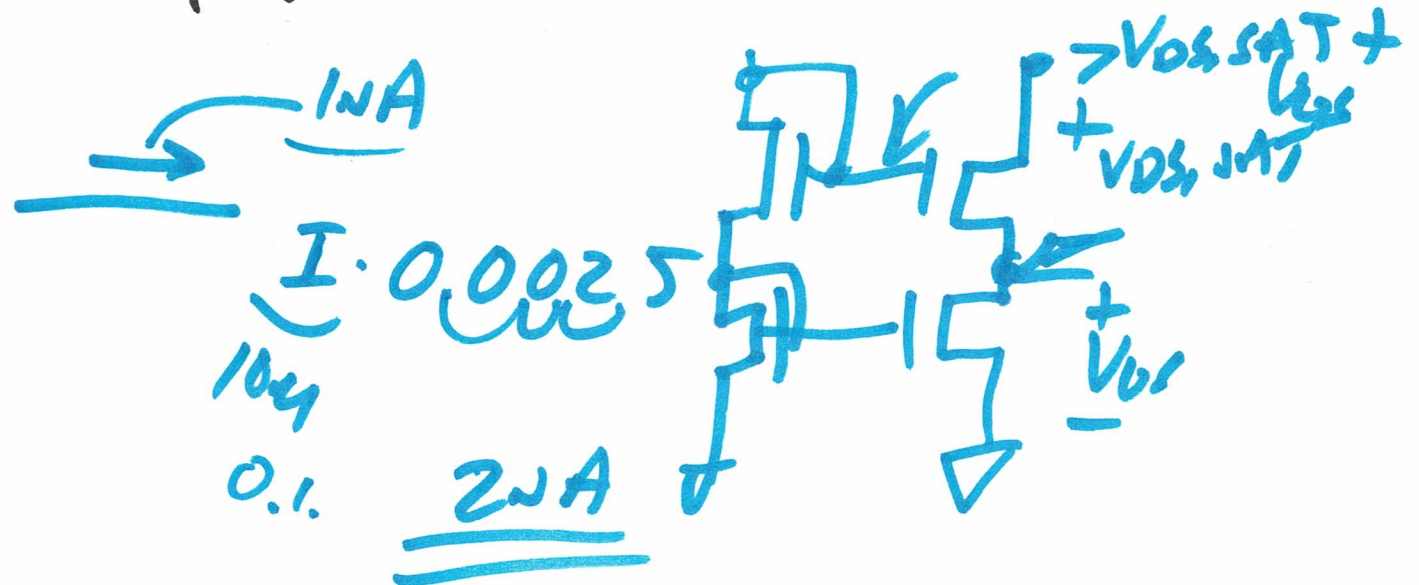
EE 420 / ELG 620

Analog IC Design

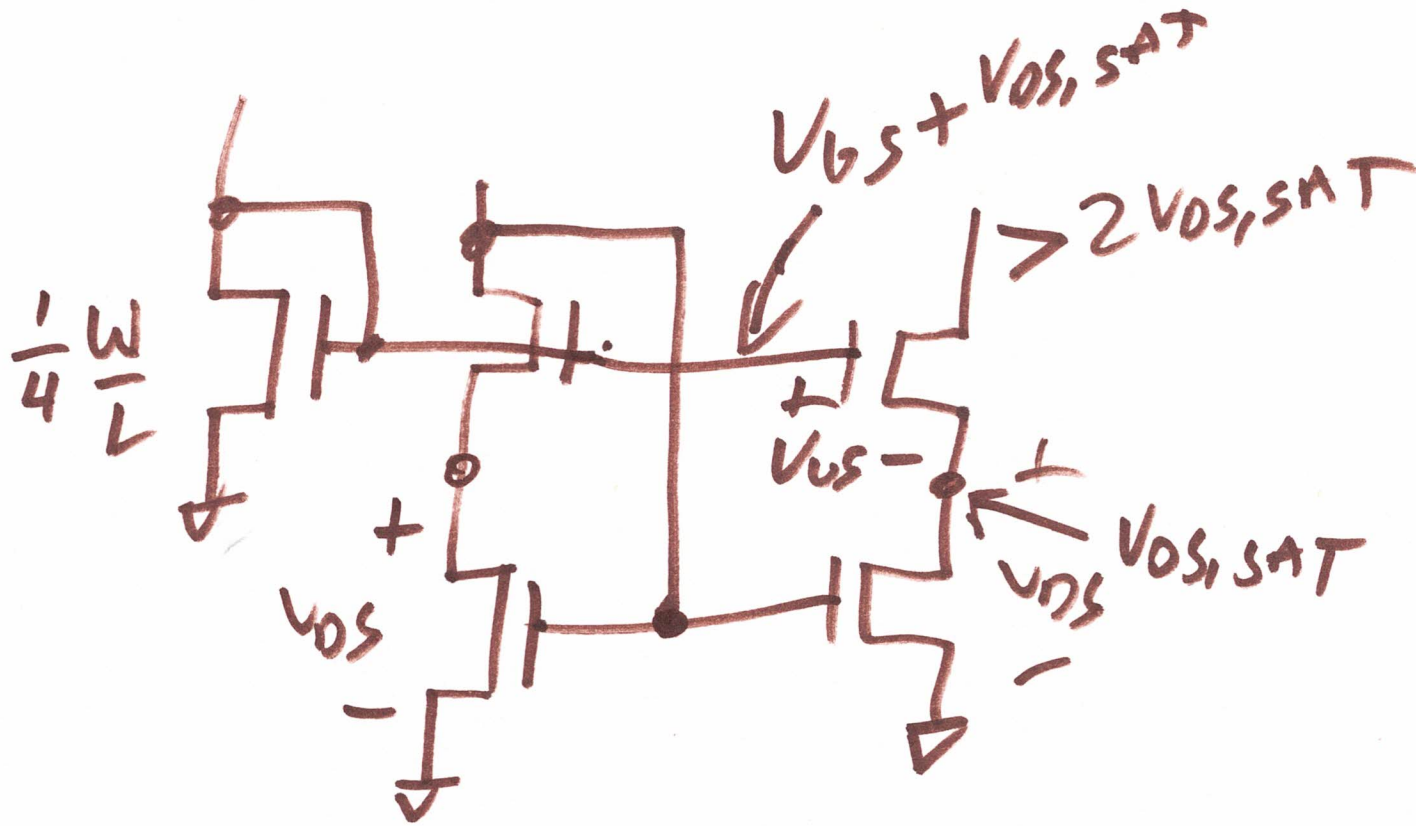
Newton - Raphson

Lecture 10

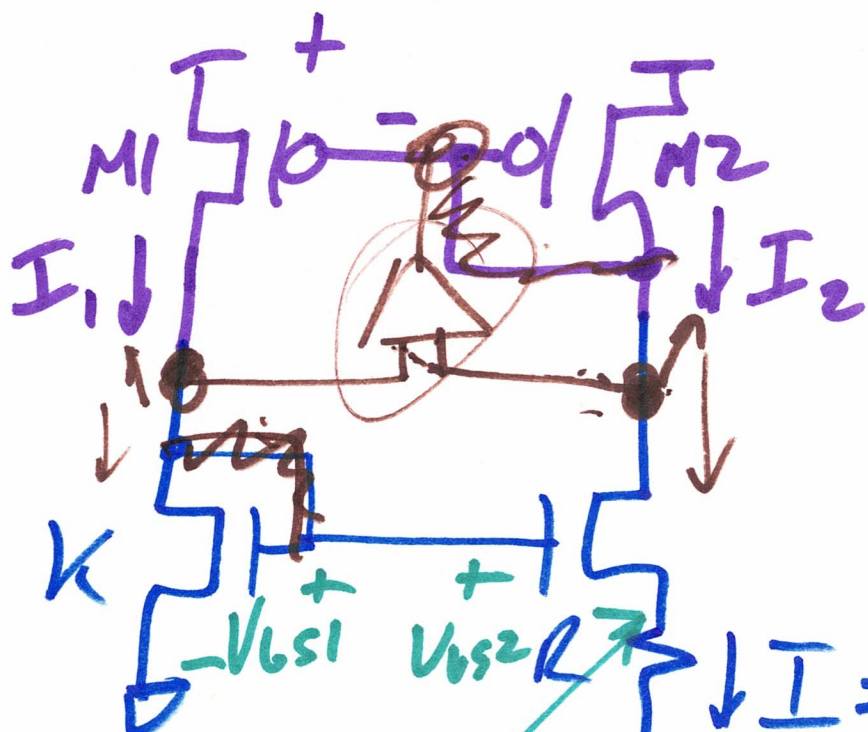
Feb. 26, 2020



Wide-swing operation



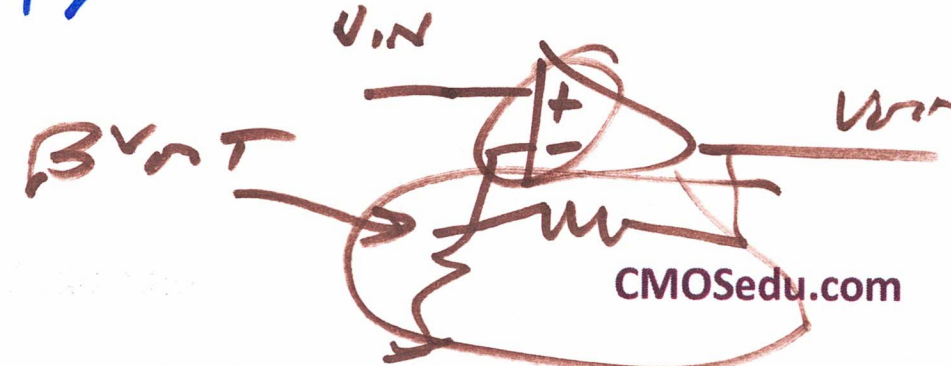
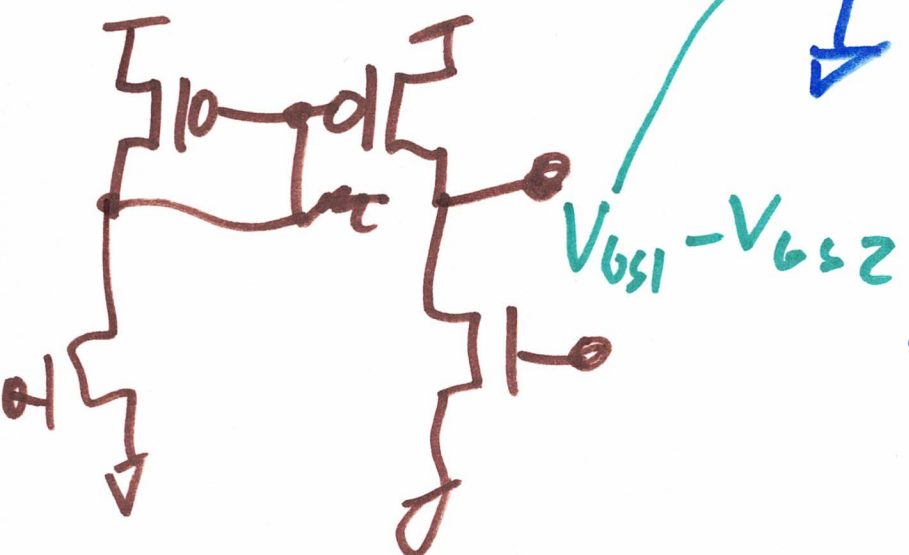
2)



$$\frac{I_1}{I_2} = \frac{\frac{\mu_0 \epsilon_0 \gamma W}{2L} (V_{DD} - V_{th})^2}{\frac{\mu_0 \epsilon_0 \gamma W}{2L} (V_{SB} - V_{th})^2}$$

$$I = \sqrt{\frac{2}{K_P \cdot W}} \cdot \left(1 - \frac{1}{\sqrt{K}}\right)^2$$

$$T \propto \frac{2}{\mu_0 \epsilon_0 \gamma \cdot W} \cdot D^2$$



3)