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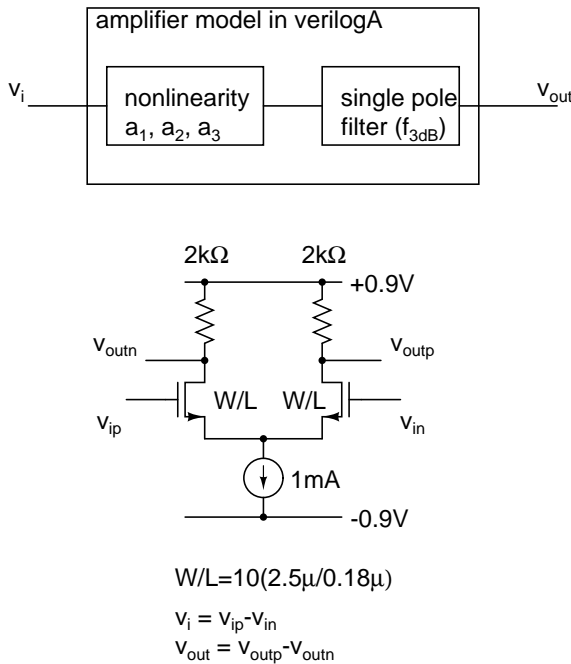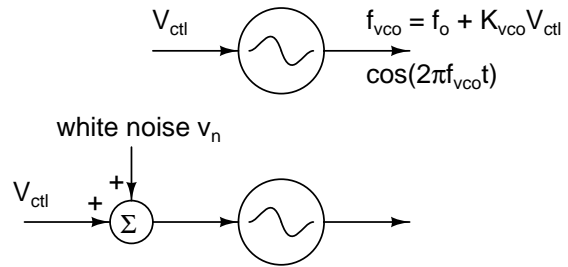

Figure 1:

Figure 2:

to +0.5 V. (Fig. 2)

Add white noise to the control voltage and simulate the output spectral density of the oscillator. Does it match the expected spectral density?

1. Model the nonlinearity (upto the third term) and the frequency response (using a single pole response) of the differential amplifier using verilogA. (Fig. 1)

   Simulate the distortion using the verilogA model and compare it to the results from the previous lab session.

   Overlay the frequency responses of the transistor level circuit and the verilogA model. Where does the model deviate from reality?

2. Model a vco in verilogA and plot its frequency versus control voltage curve for V_{ctl} from -0.5 V