

# Final Project- Tunable Ring Oscillator

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## **Prelab**

Talk about mathematical analysis, “turn on power” analysis, time constants, in general what the starver does, etc.

Talk about simulation results yolo

mention the many everyday application sof a ring oscillator

## Simulation Results

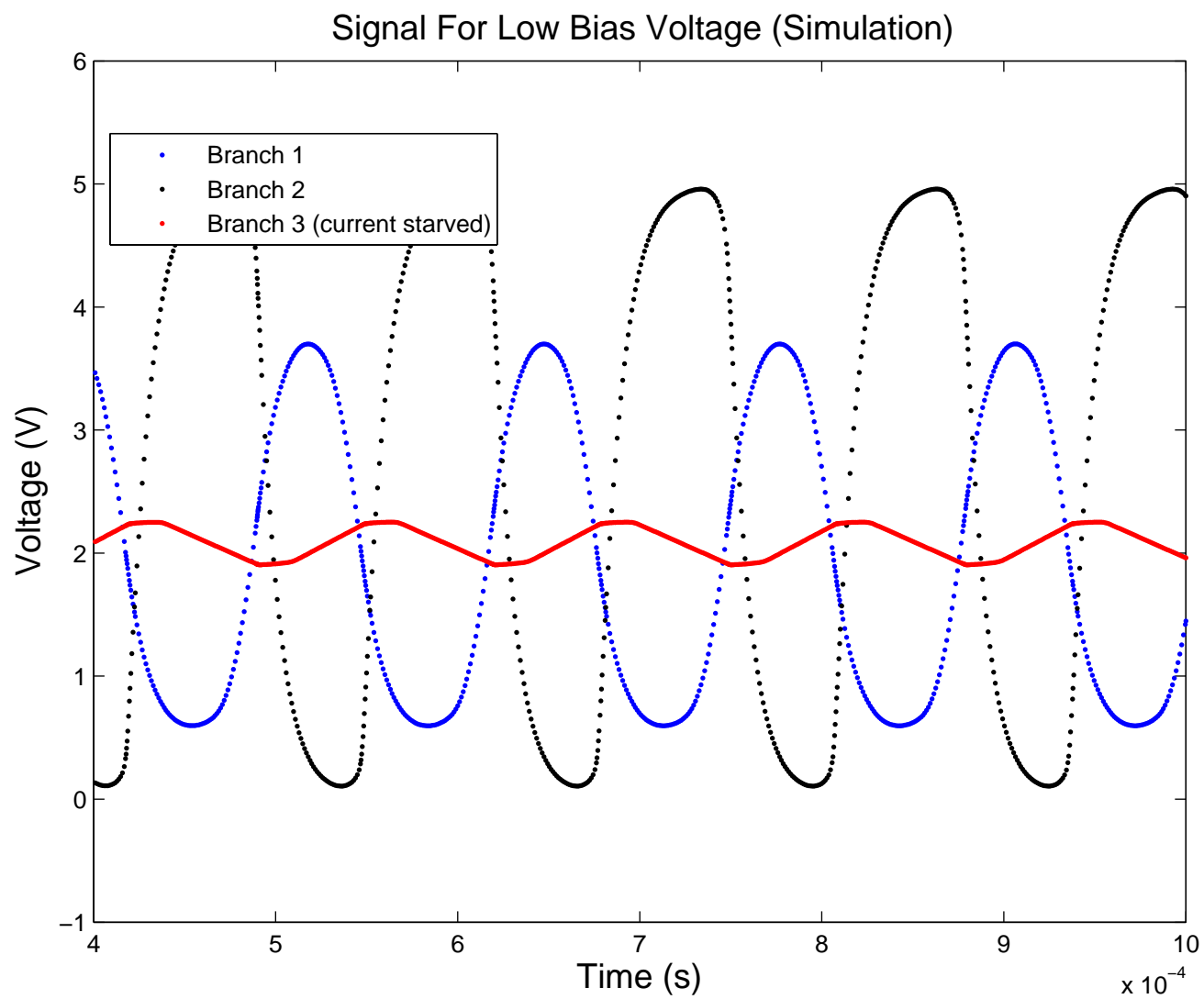


Figure 1:

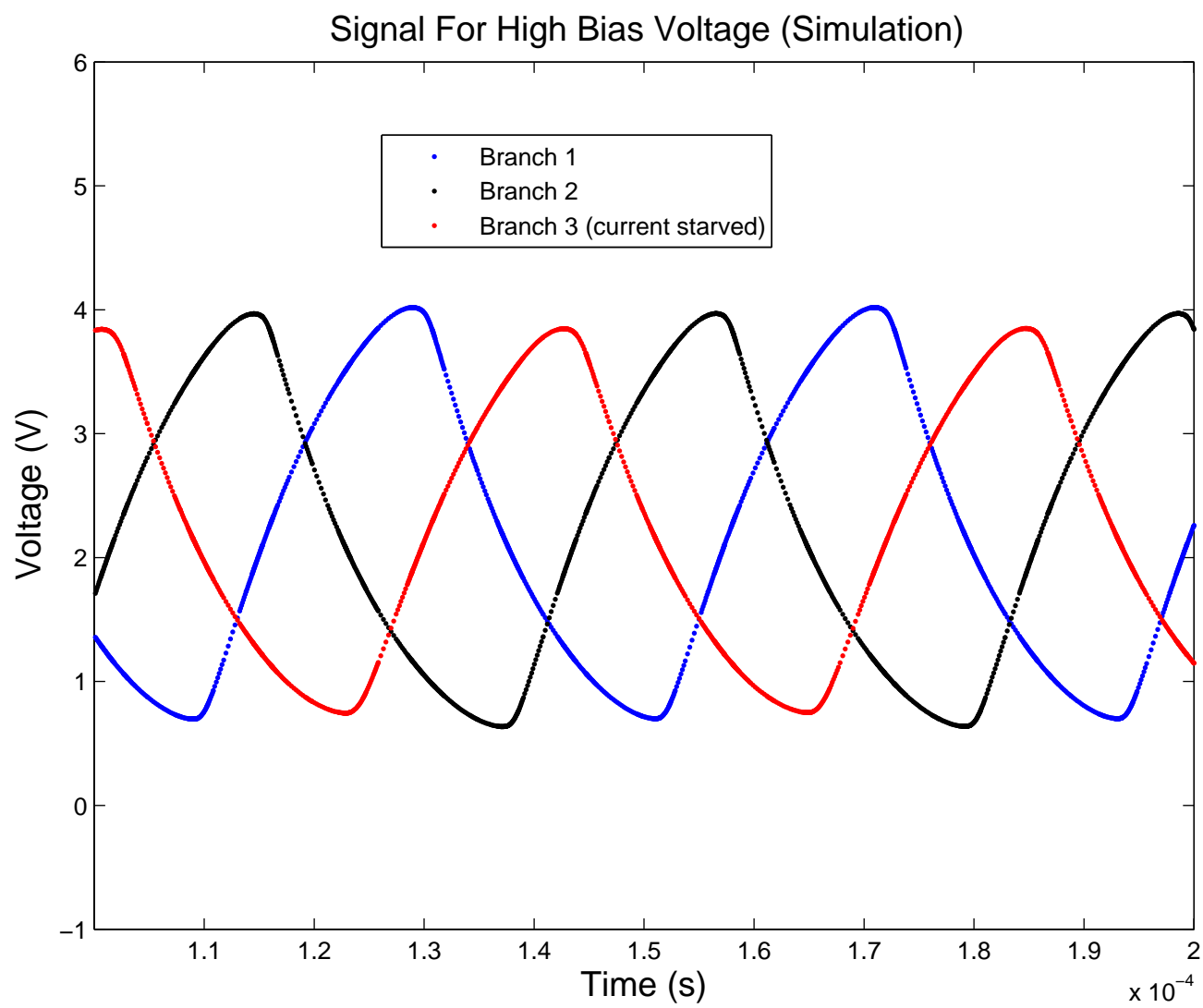


Figure 2:

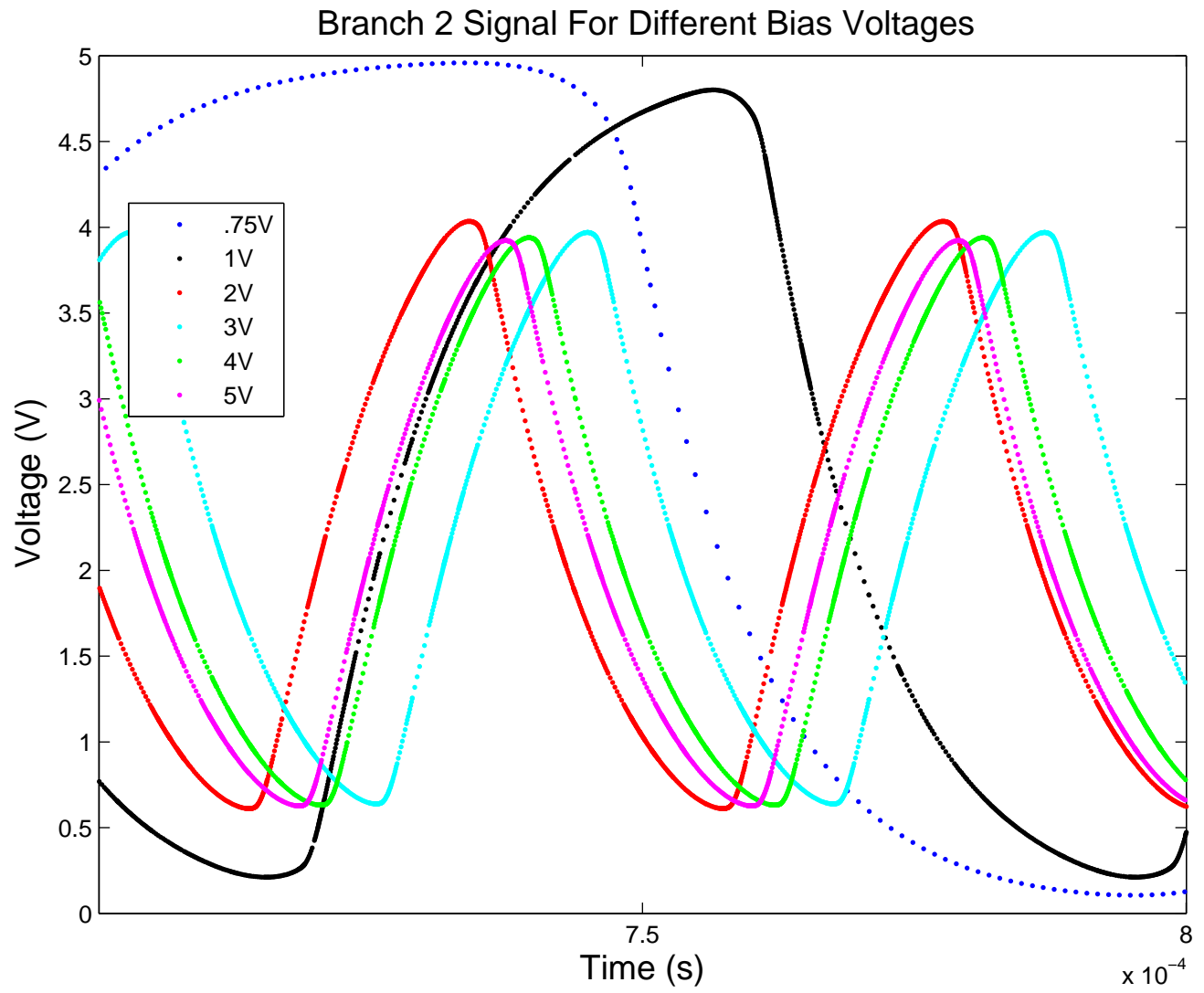


Figure 3:

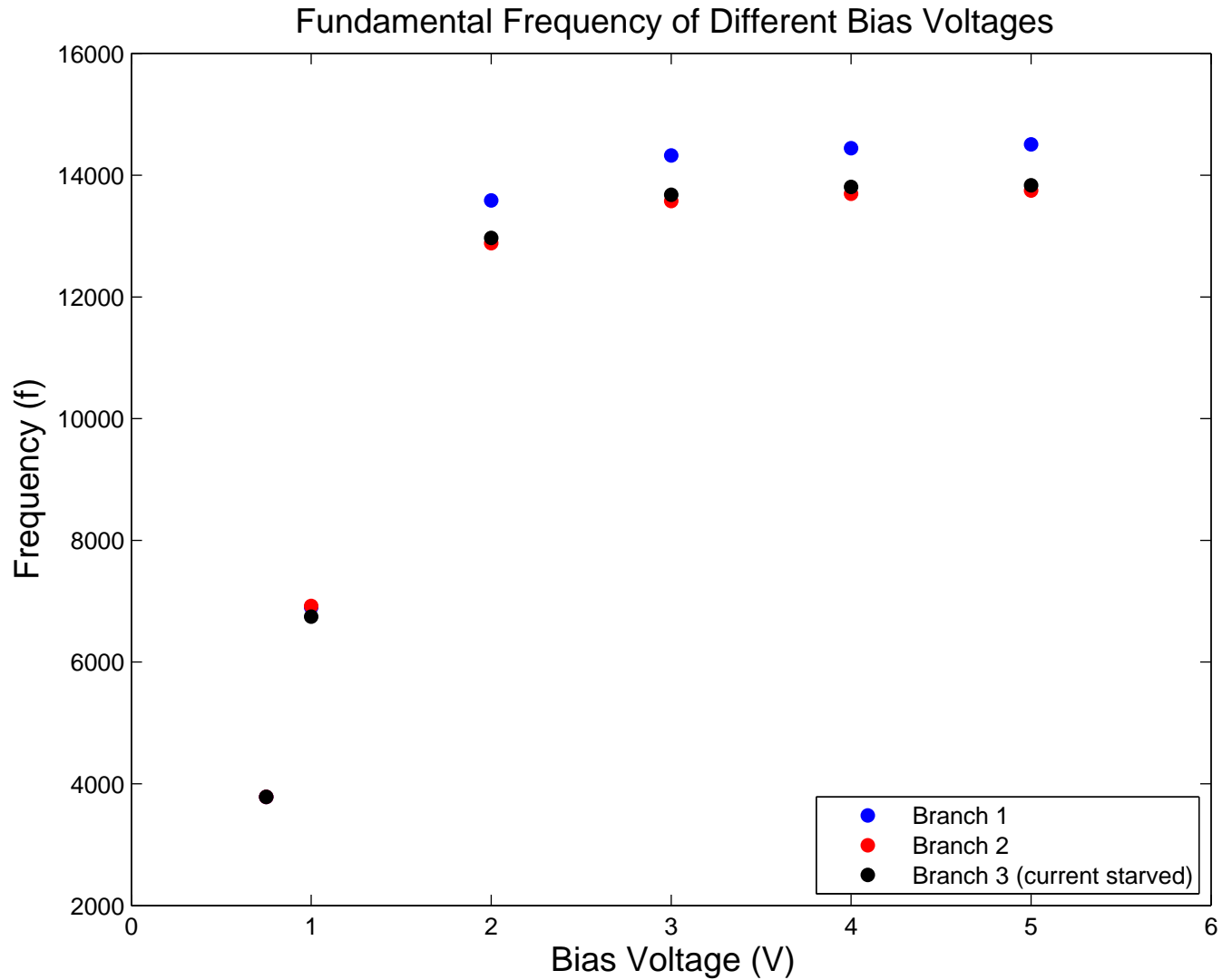


Figure 4:

## 1 Results

talk about plots. maybe fit a theoretical to them. plots:  
 signal for several bias voltages (same plot?)  
 signal for different branches  
 comparison to simulation results  
 frequency as a function of bias voltage

## 2 Postlab

talk about stuff we didn't expect. why was one branch different? why do we exist? why driving a speaker doesn't make sense. Applications of our work. Which branch is the best if you are gonna make an oscillator? what should you do if you want frequencies above/below this range?