Morecroft: “Due to the extremely high frequencies encountered in radio practice...” (1921, referring to hundreds of kilohertz)

Tasks for this week:

Read the textbook. Read pages 704-716 and ponder non-linearity.

Study Material: Pages 1-38 of textbook, PN junctions and bipolar transistor large and small signal models.

General understanding of i q frequency conversion. Google: [campbell “direct conversion”] and read a few of the first links that pop up.

Homework:

1. Review basic math for multiplication. Derive sinasinb using euler’s law.

2. Starting with the expression for diode current as a function of voltage, calculate diode current from 0.520 volts to .702 volts in 26 mV steps for a typical value of Is.

Using the Textbook

Note the Introductory statement on page 704: “Chapters 1 through 9 dealt almost entirely with analog circuits whose primary function is linear amplification of signals.”

The material in the first 700 pages is a foundation, but it’s not where we spend most of our time as designers. But it is the language and vocabulary we speak, the basic concepts, and what allows us to deeply understand active devices.

Midterm exam date:

In Class November 10. Closed book, no notes, no calculators. (CB, NN, NC)

Final exam content:

The standard Analog IC Design Interview Questions. (CB, NN, NC)