Lecture 14

Outline

Chapter 5  pn Junction Electrostatics

5.1.1 Junction Terminology/Idealized Profiles
- Metallurgical junction
- Net doping: \( N_D - N_A \)
- Doping profile
  - Step Junction
  - Linearly Graded Junction

5.1.2 Poisson’s Equation
- Electric field
- Charge density

5.1.3 Qualitative Solution
- Energy band diagram for pn junction (Figure 5.3)
- Electrostatic variables in a pn junction (Figure 5.4)

Reading: Chapter 5.1