

LECTURE 34 BONDING IN METALS AND SEMICONDUCTORS

I. Dimensionality of Materials

II. From Bonds to Bands

- A. Bands for metals
 - 1. Conduction band
 - 2. Valence band
- B. Conductor
- C. Semiconductor
- D. Insulator
- E. Probability of electrons in C.B.
- F. Intrinsic / Extrinsic Semiconductors
 - 1. Intrinsic
 - 2. Extrinsic
 - 3. P-type semiconductor
 - 4. N-type semiconductor

III. LED device

- A. Direct bandgap material