

valence band

Highest energy continuum of energy levels in a solid that is fully occupied by electrons at 0 K.

Notes:

1. The valence band is lower in energy than the conduction band and is generally completely full in semiconductors. When heated, electrons from the valence band jump out of the band across the band gap and into the conduction band, making the material conductive. The Fermi level separates the valence band from the conduction band.
2. In metals the valence band is the conduction band.
3. Sample characterized by a (unique) sample axis Z with all directions perpendicular to Z being equivalent. In other words, the sample properties are invariant to rotation around Z . Uniaxiality exists in many anisotropic samples and simplifies the interpretation of their spectra considerably.

Source:

PAC, 2007, 79, 293 (*Glossary of terms used in photochemistry, 3rd edition (IUPAC Recommendations 2006)*) on page 438