

## bending of energy bands

**Also contains definition of:** flat bands

The distribution of potential in the space charge region of a semiconductor results in a change in the electron energy levels with distance from the interface. This is usually described as 'bending of the energy bands'. Thus the bands are bent, upwards if  $\sigma > 0$  and downwards if  $\sigma < 0$ , where  $\sigma$  is the free charge density. When  $\sigma = 0$  the condition of flat bands is met, provided no surface states are present.

**Source:**

PAC, 1986, 58, 437 (*Interphases in systems of conducting phases (Recommendations 1985)*) on page 443