Band structures for (a) silicon, (b) germanium, and (c) α-tin. In the case of silicon two results are presented: the non-local pseudopotential (solid curve) and the local pseudopotential (dotted curve). (From Chelikowsky and Cohen 1976.)
Band structures of III–IV compounds: (a) GaP; (b) GaAs; (c) GaSb; (d) InP; (e) InAs; (f) InSb. (From Chelikowsky and Cohen 1976.)
FIG. 1  ENERGY GAP VERSUS LATTICE CONSTANT OF VARIOUS III-V BINARY AND TERNARY COMPOUND SYSTEMS. The solid lines and dotted lines indicate regions of direct and indirect energy bandgaps respectively.

FIG. 2  ENERGY GAP VERSUS LATTICE CONSTANT OF VARIOUS II-VI BINARY AND TERNARY COMPOUND SYSTEMS.
Fig. 9.2. A plot of the low temperature energy bandgaps of a number of semiconductors with the diamond and zinc-blende structure versus their lattice constants. The shaded regions highlight several families of semiconductors with similar lattice constants. Semiconductors joined by solid lines form stable alloys. [Chen A.B., Sher A.: *Semiconductor Alloys* (Plenum, New York 1995) Plate 1.] Note that the negative gap of HgSe is controversial [2.28]. Broken lines indicate that the bandgap is indirect.