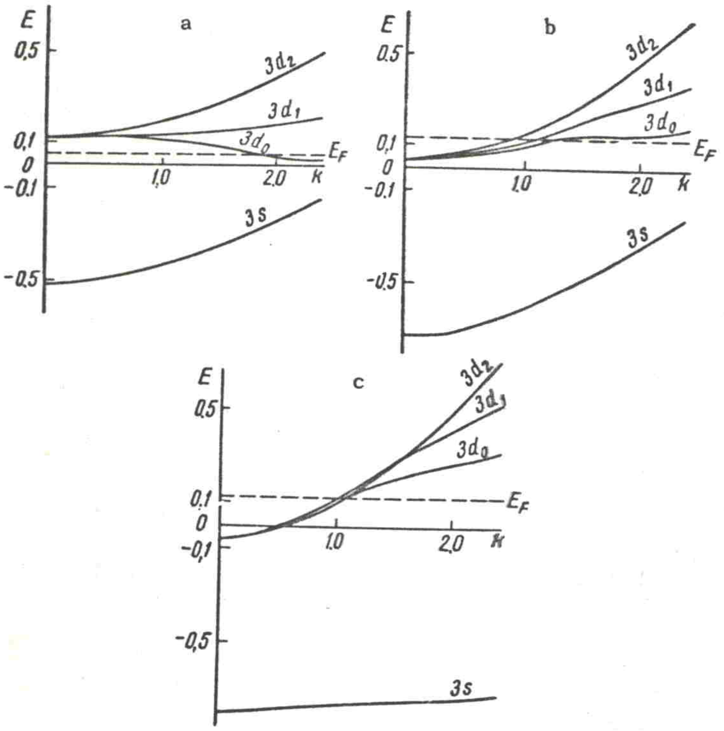

FIG. 1. Plot of E(k) for aluminum at different densities: a) $\delta = 1.48$, b) $\delta = 2.95$, c) $\delta = 4.18$.

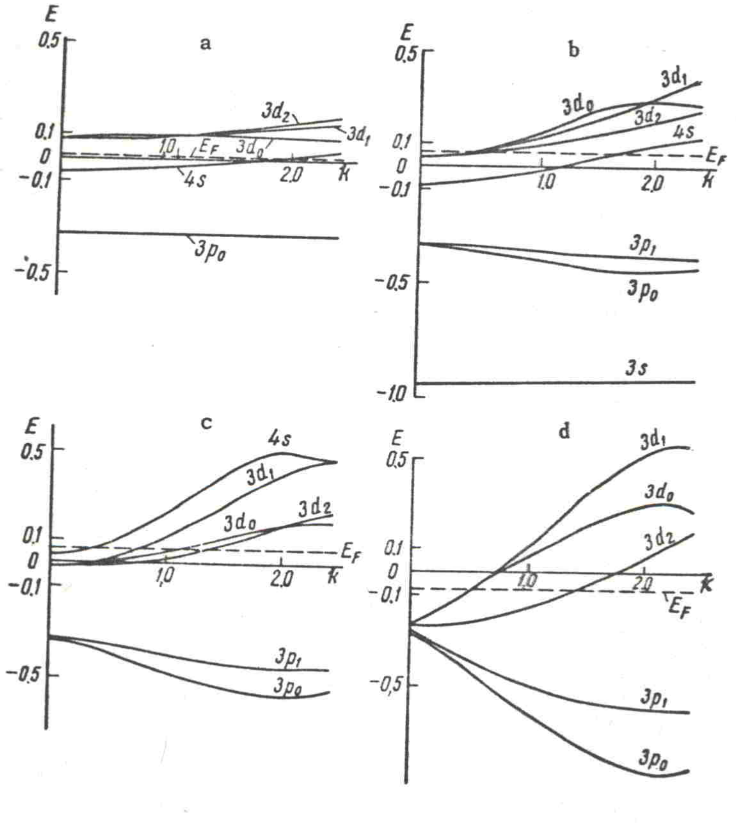

FIG. 2. Energy bands in K at different degrees of compression: a) $\delta = 1$, b) $\delta = 3$, c) $\delta = 5$, d) $\delta = 10$.

with aluminum. The configuration in the aluminum atom is $1s^2 2s^2 2p^6 3s^2 3p$, and the 3d level lies 0.148 at. un. above the 3p level.[1)] In the aluminum metal, however, the last electron is at 3d and not 3p. To be sure, the sub-band $3d_0$, at which the last electron is located, is directed downward, i.e., the energy E decreases with k, and in the case of large k the wave function of the electron contains a large admixture of p-states. Figures 1a–c show E(k) curves for aluminum at δ equal to 1.48, 2.95,

[1)] One atomic unit = 27.23 eV = 3.16×10^5 °K.