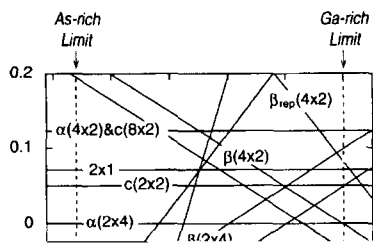


is such that (i) the surface band gap levels are $\epsilon_{\text{Ga}} - \epsilon_{\text{As}}$ where each term is a difference with respect to σ_0 .

atomic sites charge-compensate each other. In the
simplest cases, these atomic sites form charge-compensated

chemical potential, μ_{Ga} and μ_{As} , and not a function
of the electron chemical potential μ_e due to surface



and identical motifs frequencies $\{\omega_M\}$ (i.e., chemically identical). As a consequence, in constructing the AI + AII grooves and the double A steps from the $\beta 2(2 \times 4)$ surface, we do not need to transfer any atom between the surfaces and atomic reservoirs. In other words, the formation energies of the AI + AII grooves and the double A steps from the parent

dimer are indistinguishable, thus each contributes

0.15

[redacted]

[redacted]

