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- When the pumping mechanism is taken into account, the scattering matrix elements vary with the oscillating parameters. A scattered electron can absorb or emit one energy quantum $\hbar\omega$ before it leaves the scattering region. This does not contradict our single-channel picture.
- In most quantum transport problems the transmission coefficients seen from the two sides of the scattering region differ at least in phase. Structural configuration symmetry imposes however the relations t' = t and r' = r. The structure of the double-DW nanowire system is symmetric. The band edge does not vary in the transmission direction, which means that the band profile seen from the left is exactly the same with that seen from the right (cf. Fig.1). Having derived analytically t' and r' from spatially inverted wave functions we confirmed explicitly the above statement.
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