

APÊNDICE B – Evolução das estruturas de bandas das bicamadas-Rashba

B.1 Descrição dos parâmetros

- m^* : Massa efetiva de elétrons das bandas eletrônicas, $h_R^\pm = k^2/2m^*I_{2 \times 2} \pm \alpha(k_y\sigma_x + k_x\sigma_y)$;
- m' : Massa efetiva de elétrons das bandas eletrônicas, $h'^\pm = k^2/2m'$;
- α_R : Acoplamento spin-órbita tipo *Rashba*;
- t_{z1} : "hopping" de elétrons interbicamadas entre as bandas h_R^+ e h_R^- ;
- t_{z2} : "hopping" de elétrons interbicamadas entre as bandas h'^+ e h'^- ;
- D_1 : Tunelamento quântico intercamadas entre as bandas h_R^+ e h_R^- ;
- D_2 : Tunelamento quântico intercamadas entre as bandas h'^+ e h'^- ;
- M_1 e M_2 : Massa newtoniana associada com a dependência quadrática do momento.

B.2 Estruturas de bandas para uma única bicamada-Rashba

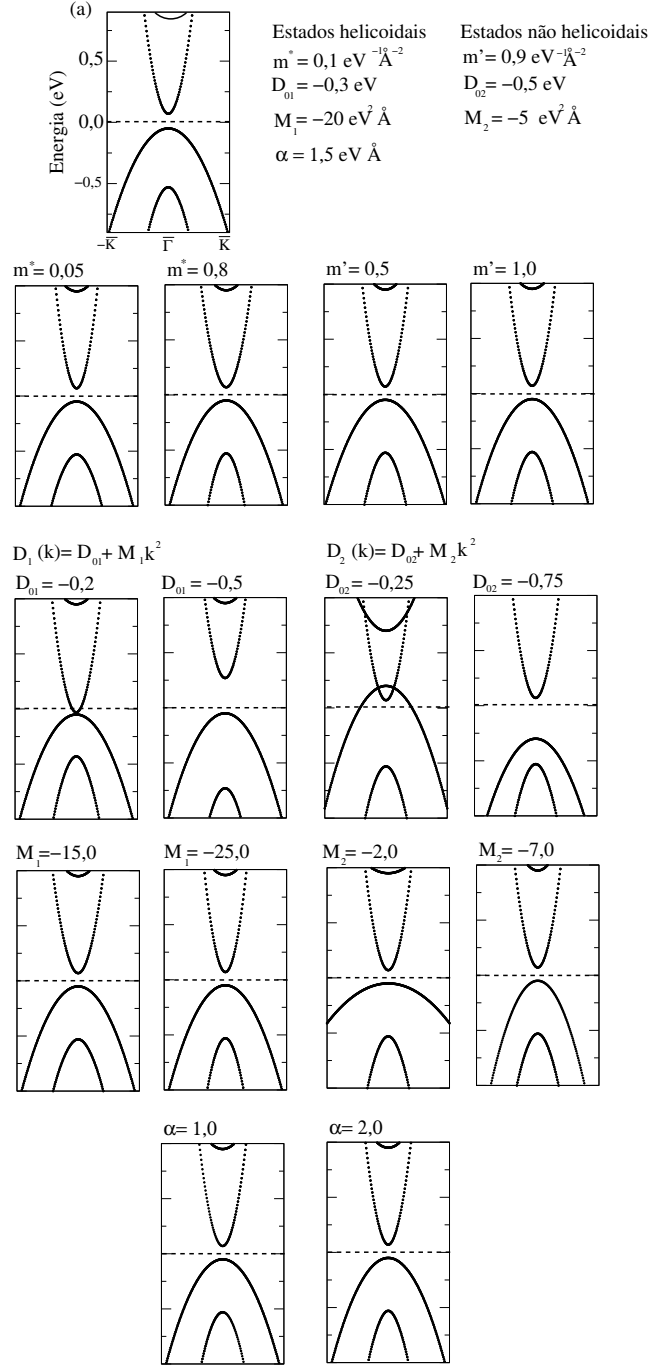


Figura B.1: (a) Dispersão de bandas para uma única BCR construída com os parâmetros que melhor descrevem os resultados obtidos via cálculo de primeiros princípios. No resto das figuras, somente um parâmetro é mudado, mantendo o restante utilizado em (a). O eixo horizontal varia de $-\bar{K}$ até $\bar{K}$ e o eixo vertical de $E=-1$ a 1 eV , com o nível de Fermi representado pela linha tracejada.

B.3 Estruturas de bandas para duas bicamadas-Rashba

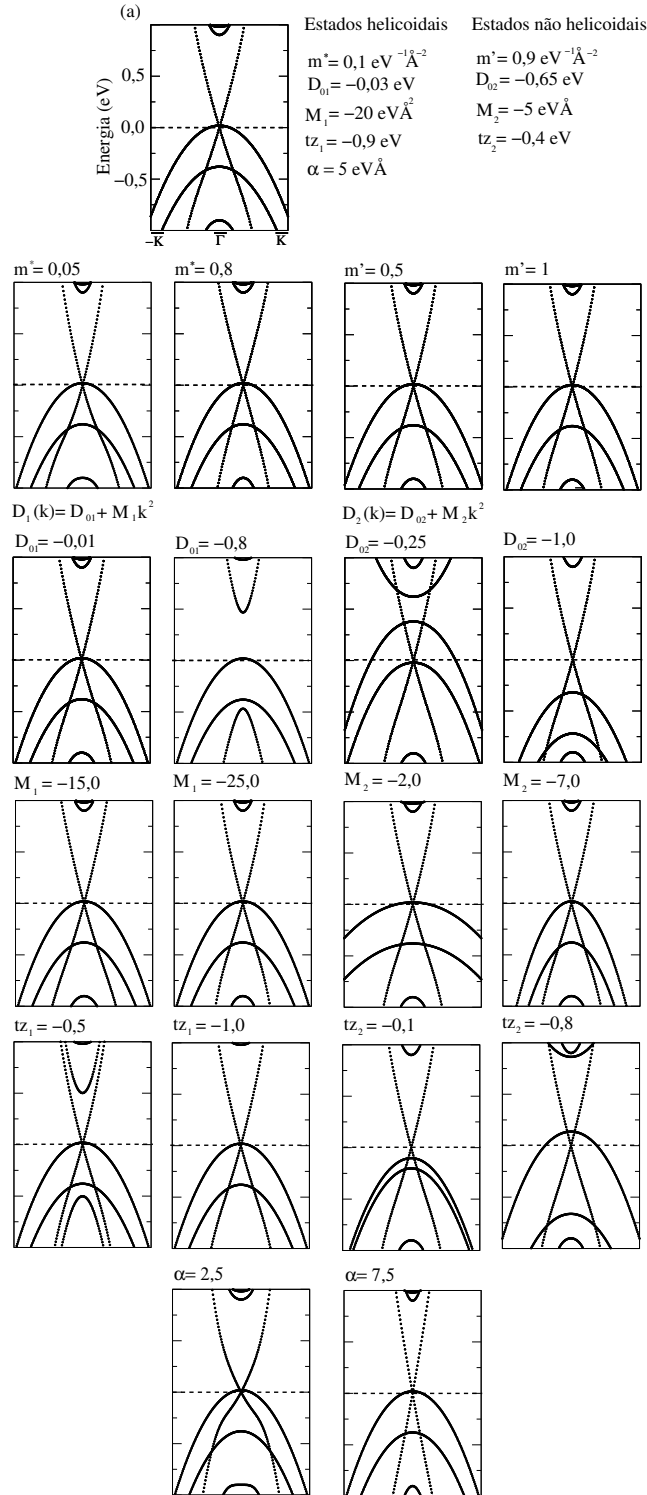


Figura B.2: (a) Dispersão de bandas para duas BCRs construída com os parâmetros que melhor descrevem os resultados obtidos via cálculo de primeiros princípios. No resto das figuras, somente um parâmetro é mudado, mantendo o restante utilizado em (a). O eixo horizontal varia de $-\bar{K}$ até $\bar{K}$ e o eixo vertical de $E=-1$ a 1 eV , com o nível de Fermi representado pela linha tracejada.

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