Propagation of quantum states in translation invariant magnetic field and their perturbations.

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The goal of this talk is to present different models with translation invariant magnetic field, such as Iwatsuka models. The associated Hamiltonians can be fibered, and the properties of the band functions can be linked to the propagation properties of quantum states submitted to such magnetic fields. If the case of states with bounded frequencies is well understood, less is known for the states with energy corresponding to a limit of a band function, which is associated with large values of the Fourier parameter.