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标题: Negative refraction in semiconductor metamaterials based on quantum cascade laser design for the mid-IR and THz spectral range
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摘要: We have considered the realization of metamaterials based on semiconductor quantum nanostructures, in particular, with the structural arrangement as in quantum cascade laser (QCL) designed to achieve optical gain in the mid-infrared and terahertz part of the spectrum. The entire structure is placed in a strong external magnetic field, which facilitates the attainment of sufficient population inversion, necessary to manipulate the permittivity, and enable a left-handed regime.
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