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Advances in the calculation of optical properties in superlattices; novel insights derived from the theory of finite periodic systems

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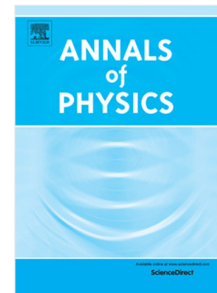
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Highlights, Selection rules for superlattices

- A simple and appropriate theory is used to evaluate eigenvalues and eigenfunctions
- A substantial reduction in the evaluation of transition matrix elements is achieved through new selection rules.
- The spontaneous emission and the resonant optical spectra features observed for blue emitting devices are faithfully reproduced and fully explained.
- The Infrared and radiative spectra for different kind of systems are reproduced with good agreement.
- Optical spectra peaks, experimentally observed but forbidden by the current theory, are now identified and correctly characterized.

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