

Abstract Submitted  
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**Asymmetric confinement of an electron in a double-well potential and its relation with molecular lasers** IVAN MARIN-ENRIQUEZ, JOSE LUIS MARIN-FLORES, GERMAN CAMPOY-GUEREÑA, RAUL RIERA-AROCHE, Departamento de Investigacion en Fisica, Universidad de Sonora — The confinement of an electron in an asymmetric double-well is proposed as an alternative system in which transitions and tunneling between bound states can have a similar behavior as in double-square well structures, regarding lasing properties. We show that this system would be more reliable than actual devices, since the relevant factor related to its efficiency is sharper and can be shifted in wavelength in a wide range as compared with, namely, its closest partner, the square double-well potential. Since nowadays technology allows the deposition of atom by atom (or molecule by molecule) layers of active materials, we think that such a device is feasible of construction, and represents a very attractive subject for research at both experimental and theoretical physics.

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