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# Non-integer Quantum Transition, a True Non-perturbation Effect in Laser-Atom Interaction

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Abstract: We show that in the quantum transition of an atom interacting with an intense laser of circular frequency $\omega$, the energy difference between the initial and the final states of the atom is not necessarily an integer multiple of the quantum energy $\hbar\omega$. This kind of non-integer transition is a true non-perturbation effect in laser-atom interaction.

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Key words: transitions induced by intense lasers, non-perturbation effect, violation of Bohr condition

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