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Interference of Atomic Bose-Einstein Condensate Interacting with Laser Field

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Abstract: Interference of an atomic Bose-Einstein condensate interacting with a laser field in a double-well potential with dissipation is investigated. If properly selecting the laser field and the initial states of the atoms in the two wells, we find that the intensity exhibits revivals and collapses. The fidelity of interference is affected by the total number of atoms in the two wells and dissipation.

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Key words: fidelity, interference, atomic Bose-Einstein condensate, dissipation

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