

量子光学

腔QED中cluster相干态的产生

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摘要: 提出一个在腔QED中产生cluster-type的纠缠相干态的方案。基于三能级 Λ 型原子和双模腔场之间的大失谐相互作用下, 原子的自发辐射可以被忽略。此外, 腔场的初态是真空态。在这个方案中, 对原子进行测量后, 能够产生腔场的cluster型的纠缠相干态, 并讨论了实验的可行性。

关键词: 量子光学 cluster态 纠缠相干态 双模腔 腔QED

Creation of cluster coherent states in cavity QED

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Abstract: A scheme is proposed for the creation of cluster-type entangled coherent states via cavity QED. Based on the large detuning condition interaction between a three-level Λ type atom driven by two classical fields and two bimodal cavities, we can ignore the spontaneous emission of the atom. Moreover, the initial states of the two cavity fields are all prepared in vacuum. In this scheme, it is shown that the cluster-type entangled coherent states can be generated after the atomic measurement, and the experimental feasibility is also discussed.

Keywords: quantum optics cluster state entangled coherent state bimodal cavity cavity QED

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