

Generation and Detection of Fock-States of the Radiation Field

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In this paper we give a survey of our experiments performed with the micromaser on the generation of Fock states. Three methods can be used for this purpose: the trapping states leading to Fock states in a continuous wave operation, state reduction of a pulsed pumping beam, and finally using a pulsed pumping beam to produce Fock states on demand where trapping states stabilize the photon number.

Key words: Quantum Optics; Cavity Quantum Electrodynamics; Nonclassical States; Fock States;
One-Atom-Maser.