Non-markovian Radiative Phenomena In Photonic Band-gap Materials

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24 Feb 2005 . radiation field of a photonic band-gap material using non-Markovian of the physical phenomena already described in the literature within PHOTONIC bandgap (PBG) materials represent a new. paradigm in quantum . exhibit a much richer. variety of nonlinear wave propagation phenomena than con- highly non-Markovian memory effects in radiative dynam-. ics. In addition, it Non-Markovian radiative phenomena in photonic band-gap materials Radiating dipoles in photonic crystals QUANTUM OPTICS IN STRUCTURED RADIATION RESERVOIRS S . 30 Mar 2015 . In this investigation, a crossover phenomenon from equilibrium to quilibrium Photonic band gap (PBG) structures in photonic crystals (PCs) Due to PBG-induced localized long-lived non-Markovian photon [PubMed]; Lachs G. Theoretical Aspects of Mixtures of Thermal and Coherent Radiation. Two level system in a PBG material: a stochastic Schrödinger . - IFISC Marian Florescu ???Non-Markovian radiative phenomena in photonic band-gap materials electronic resource, ????UMI, ?????0000-00-00. ?????9780612637580 Simulating quantum-optical phenomena with cold . - IOPscience

10 Feb 2011 . Appendix A. Extracting information from the non-Markovian equation (7) .. radiation field within an anisotropic 3D photonic band-gap material, Breakdown of Bose-Einstein Distribution in Photonic Crystals modified radiation field of a photonic band gap material (PBG), using non-. Markovian stochastic Schrödinger equations (SSE). PBG materials are periodic we propose a new non-Markovian master equation derived from the stochastic . Keywords: Stochastic Schrodinger equations, Photonic Band Gap Materials, phenomena occuring when an atom interacts with a three dimensional gap. to the gap, the photonic density of states (DOS) of the radiation field inmerse in one Optical bistability and phase transitions in a doped photonic band . Title, Non-Markovian radiative phenomena in photonic band-gap materials. URL, http://www.collectionscanada.ca/obj/s4/f2/dsk3/ftp05/NQ63758.pdf. Publication Collective Phenomena in Photonic Crystals Nanophotonic Materials: Photonic Crystals, Plasmonics, and Metamaterials. multibranch dispersion relations may be separated by Photonic Band Gaps The appropriate theoretical model to describe nonlinear wave phenomena in one- .. This equation describes the non-Markovian radiation dynamics of the solitary Coherent atomic matter waves - Ondes de matiere coherentes: 27 . - Google Books Result Photonic band gaps as large as 30% of the center . Photonic band-gap materials constitute a fundamentally new class of ficiently far from the band edge that non-Markovian effects. PHYSICAL scribes the atomic inversion; a and a† are the radiation field non-Markov phenomena in spontaneous emission 11 and. Previous article - The European Physical Journal D (EPJ D) 23 May 2006 . ments in photonic band gap materials from the physics of photonic band . cases the normal modes of the EM field are extended, not localized. .. novel phenomena, such as, for example, the inhibition of between the atom and the cavity radiation field. . the non-Markovian character of the reservoir. Pulse propagation and soliton formation in nonlinear Photonic Band . Non-Markovian Radiative Phenomena in Photonic Band-gap Materials [microform]. Portada. Nipun Vats. Thesis (Ph.D.)--University of Toronto, 2001 - 143 Photonic Crystals and Inhibition of Spontaneous.pdf 17 Mar 2015 . forbidden photonic band gap (PBG) as well, giving rise to many interesting coherent phenomena such as the possibility of controlling non-markovian de- The majority of contributions regarding radiative properties consider only .. cade atom in high-q cavities and photonic band gap materials, Journal of. Non-Markovian radiative phenomena in photonic band-gap materials 15 Nov 2000 . We examine the question whether these band gaps can modify the However, the corresponding non-Markovian behavior produces Fi – Phase coherent atomic ensembles; quantum condensation phenomena / 32.80.-t – Photon interactions with atoms / 42.70.Qs – Photonic bandgap materials. Non-Markovian radiative phenomena in photonic band-gap materials 6 Jun 2000 . initially excited harmonic oscillator coupled to a non–Markovian bath of harmonic oscillators repre- senting the colored giving rise to a complete photonic band gap (PBG). The radiative dynamics of an optically active material placed within or near a number of novel quantum optical phenomena. These. Winter College on Quantum Optics: Novel Radiation Sources Non-Markovian radiative phenomena in photonic band-gap materials . By: Jack, Michael Wong Published: (1999); Non-Markovian Quantum Trajectories Coherent coupling between a three-level atom and structured . Publication » Non-Markovian radiative phenomena in photonic band-gap materials [microform]. Non-Markovian radiative phenomena in photonic band-gap . Non-Markovian stochastic dynamics of a two level system inmerse in . Phenomena and Complex systems. . 5.1.1 Non-Markovian linear equation: convoluted and convolutionless. 64 Appendix B Coherent states of the radiation field. .. [12] and John [13], are commonly known as photonic band gap materials APA (6th ed.) Vats, N., & John, S. . (2001). Non-markovian radiative phenomena in photonic band-gap materials. Chicago (Author-Date, 15th ed.) Vats, Nipun

I Linear and Non-linear Properties of Photonic Crystals - Wiley-VCH 14 Nov 2010 . In particular, I focus on the identification of novel phenomena and Directions of research include photonic band gap formation in Due to their distinctive optical and structural properties, non-crystallographic PBG materials are . photonic density of states, the non-Markovian character of radiative decay OSA Creation of large band gap with anisotropic annular photonic . 3 Atom-Atom interaction at the edge of a photonic band gap. 21. 3.1 Introduction . 4] but results on the non-markovian master equation have been of new phenomena: For instance in the spontaneous decay of a two-level atom located inside a photonic band gap (PBG) material and near-resonant with the edge of a PBG, (Photonic bandgap formation and tunability in certain self . - TKM 8 May 2004 . havior towards different modes of electromagnetic radiation. Due to a insure that the photons do not escape this path. Hence defects can lead. 2 photonic-bandgap material would have such properties. Not . isotropic one that makes use of the Markovian approximation, and an anisotropic one that Non-Markovian radiative phenomena in photonic band-gap materials Title: Non-Markovian radiative phenomena in photonic band-gap materials. Authors: Vats, Nipun. Affiliation: AA(University of Toronto (Canada)). Publication: Non-Markovian radiative phenomena in photonic band-gap materials 21 Mar 1997 . Light localization and band edge lasing in a photonic band gap. Tran Quang Lecture 1: Fundamental Phenomena. 0 Concepts of a The Photonic Bandgap. Photonzc band . tion (non-Markovian mean ?eld approach) gives: 0 Steady-state phasing caused by phonons in PBG materials. (R22)/N g. Two-level system immersed in a photonic band-gap material: A non . The uniaxial material Tellurium with no = 4.8 and ne = 6.2 in the wavelength regime In slabs the modes are not purely TE or TM modes, but they can still be . Generation of this phenomenon is mainly due to the anisotropy in dielectric. If the photonic band of slab structure is calculated using isotropic dielectric with the Non-markovian radiative phenomena in photonic band-gap materials. Periodically microstructured dielectric materials whose linear properties are . choices of the relevant parameters - may exhibit a photonic band gap (PBG), near the PBG - we expect strongly non-Markovian radiation dynamics to occur. well as provide novel insights into basic nonlinear phenomena which - owing to the Relaxation properties in non-Markovian quantum systems Photonic Crystals: Advances in Design, Fabrication, and . - Google Books Result Title: Non-Markovian radiative phenomena in photonic band-gap materials. Author: Vats, Nipun. Issue Date: 2001. Publisher: National Library of Canada Non-Markovian Radiative Phenomena in Photonic Band-gap . Keywords: quantum interference, non-Markovian reservoir,coupling strength, . there exist a photonic band gap (PBG) to prohibit those electromagnetic frequencies are within the PBG, propagating inside the periodic dielectric materials. For a two-level atom embedded in PCs, many interesting phenomena have been. Susceptibility of a two-level atom near an isotropic photonic band .