
The Thesis is based on our following articles

List of Publications

1. K. Mukherjee and P. C. Jana, Squeezing and entanglement in quadratically-coupled optomechanical system, J. Phy. Sc. 19, 143 (2014)
2. K. Mukherjee and P. C. Jana, EPR-Steering and Bell states for quadratically-coupled optomechanical system, J. Phy. Sc. 20, 213 (2015)
3. K. Mukherjee and P. C. Jana, Nonclassical properties (Squeezing, antibunching, entanglement) for couple-cavity optomechanical system, Journal of Optics 47, 121 (2016)
4. K. Mukherjee and P. C. Jana, Higher-order single mode squeezing for couple cavity optomechanical system, IARJSET 3, 11 (2016)
5. K. Mukherjee and P. C. Jana, Higher-order squeezing of a generic quadratically-coupled optomechanical system, IOSR J. App. Phys. 9, 90 (2017)
6. K. Mukherjee and P. C. Jana, Higher-order quantum dynamics of a generic quadratically-coupled optomechanical system: entanglement, antibunching and spin squeezing, Optica Applicata 4, 651 (2017)
7. K. Mukherjee and P. C. Jana, Quantum dynamics of a couple cavity optomechanical system: Three mode & four mode entanglement, Optik 180, 226 (2018)
8. K. Mukherjee and P. C. Jana, Higher order intermodal antibunching for couple-cavity optomechanical system, Journal of Optics 6, 494 (2018)
9. K. Mukherjee and P. C. Jana, Intermodal entanglement in three mode optomechanics, IJCRME 4, 55 (2019)
10. K. Mukherjee and P. C. Jana, Enhancement of squeezing effects in \mathcal{PT} -symmetric coupled microcavities – Optik 194 , 163058 (2019)
11. K. Mukherjee and P. C. Jana, Controlled optical bistability in parity-time symmetry micro-cavities: Possibility of all optical switching – Physica E : Low-dimensional systems and nanostructures 117, 113780 (2019)
12. K. Mukherjee and P. C. Jana, Optically induced transparency in coupled micro-cavities: Tunable Fano resonance – European Physical Journal D, Accepted article id - d190356 (2019)

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13. K. Mukherjee and P. C. Jana, Entanglement dynamics of parity-time-symmetric micro-cavities: Power Spectrum – Communicated

Paper presented at Conference / Workshop

1. K. Mukherjee and P. C. Jana, Intermodal antibunching in coupled-cavity optomechanical system, International conference on Light and Light based Technologies (ICLLT-2016), Tezpur University, Assam, 26-28 November, 2016.
2. K. Mukherjee and P. C. Jana, Higher-order entanglement in modulated optomechanics, Workshop on Optics and Photonics: Theory and Computational Techniques (OPTCT-2017), IIT Delhi, New Delhi, 4-5 March, 2017.
3. K. Mukherjee and P. C. Jana, Photon blockade effect in a cavity optomechanical system induced by a nonlinear photonic crystal, 2nd Regional Science and Technology Congress (2nd RSTC(WR) 2017), Burdwan University, Burdwan, 16-17 November, 2017.
4. K. Mukherjee and P. C. Jana, Multimode entanglement in three mode optomechanical system, OSI-International symposium on Optics (OSI-ISO 2018), IIT Kanpur, Uttar Pradesh, 19-22 September, 2018.
5. K. Mukherjee and P. C. Jana, Squeezing effects in 2D optomechanical system formed by photonic crystal cavity and graphene sheet, The International conference on Fibre optics and Photonics (PHOTONICS 2018), IIT Delhi, New Delhi, 12-15 December, 2018.
6. K. Mukherjee and P. C. Jana, Entanglement dynamics in two dimensional optomechanics, Asia Pacific Conference and Workshop on Quantum Information Science (APCWQIS 2018), IISER Kolkata, 19-23 December, 2018.
7. K. Mukherjee and P. C. Jana, Optical bistability in coupled cavity system, International Conference on Optics and Electro-Optics (ICOL 2019), IRDE-DRDO, Dehradun, Uttarakhand, 19-22 October, 2019.