

List of articles

This thesis is based on the following articles:

1. **Javid Naikoo**, Ashutosh Kumar Alok, Subhashish Banerjee, S. Uma Sankar, “Leggett-Garg inequality in the context of three flavour neutrino oscillation”, *Physical Review D* **99**, 095001 (2019).
2. **Javid Naikoo**, Ashutosh Kumar Alok, Subhashish Banerjee, S. Uma Sankar, Giacomo Guarnieri, Christiane Schultze, Beatrix C. Hiesmayr, “*A quantum information theoretic quantity sensitive to the neutrino mass-hierarchy*”, *Nuclear Physics B* **951**, 114872 (2020).
3. **Javid Naikoo**, Ashutosh Kumar Alok, Subhashish Banerjee, “*Study of temporal quantum correlations in decohering B and K meson systems*”, *Physical Review D* **97**, 053008 (2018).
4. **Javid Naikoo**, Subhashish Banerjee, “*Entropic Leggett-Garg inequality in neutrinos and B (K) meson systems*”, *European Physical Journal C*, **78** 602 (2018).
5. **Javid Naikoo**, Swati Kumari, Subhashish Banerjee, A. K. Pan, “*Probing inequivalent forms of Leggett-Garg inequality in subatomic systems*”, *Journal of Physics G: Nuclear and Particle Physics*, **47**, 095004 (2020).
6. **Javid Naikoo**, Subhashish Banerjee, R. Srikanth , “*Leggett-Garg inequality violation under non-Markovian noise*”, arXiv:1806.00537.
7. **Javid Naikoo**, Supriyo Dutta, Subhashish Banerjee, “*Facets of quantum information under non-Markovian evolution*”, *Physical Review A* **99**, 042128 (2019).
8. **Javid Naikoo**, Subhashish Banerjee, Kishore Thapliyal, Anirban Pathak, “*Quantum Zeno effect and nonclassicality in a PT symmetric system of coupled cavities*”, *Physical Review A* **99**, 023820 (2019).
9. **Javid Naikoo**, Kishore Thapliyal, Anirban Pathak, Subhashish Banerjee, “*Probing nonclassicality in an optically-driven cavity with two atomic ensembles*”, *Physical Review A* **97**, 063840 (2018).
10. **Javid Naikoo**, Subhashish Banerjee, Anirban Pathak, “*Interplay between nonclassicality and PT symmetry in an effective two level system with open system effects*”, *Physical Review A* **100**, 023836 (2019).
11. **Javid Naikoo**, Subhashish Banerjee, “*Study of coherence based measure of quantumness in (non) Markovian channels*”, *Quantum Information Processing*, **19**, 29 (2019).
12. **Javid Naikoo**, Subhashish Banerjee, Arun M. Jayannavar, “*Violation of Leggett-Garg type inequalities in a driven two level atom interacting with a squeezed thermal reservoir*”, *Physical Review A* **100**, 062132 (2019).
13. **Javid Naikoo**, Subhashish Banerjee, “*Quantumness of channels*”, arXiv:1911.07677 [To appear in *Quantum Information Processing*].
14. **Javid Naikoo**, Swati Kumari, Subhashish Banerjee, A. K. Pan, “*Maximal coherent behavior about exceptional points in a PT symmetric qubit*”, arXiv:1912.12030.
15. **Javid Naikoo**, Subhashish Banerjee, R. Srikanth, A. K. Pan, “*Probing non-Markovianity via generalized measurements*”, Manuscript under preparation.

Other published material

1. Khushboo Dixit, **Javid Naikoo**, Subhashish Banerjee, Ashutosh Kumar Alok, “*Quantum correlations and the neutrino mass degeneracy problem*”, European Physical Journal C, **78** 914 (2018).
2. Khushboo Dixit, **Javid Naikoo**, Banibrata Mukhopadhyay, Subhashish Banerjee, “Quantum correlations in neutrino oscillations in curved spacetime”, Physical Review D **100**, 055021 (2019).
3. Khushboo Dixit, **Javid Naikoo**, Subhashish Banerjee, Ashutosh Kumar Alok, “ *Study of coherence and mixedness in meson and neutrino systems*”, European Physical Journal C **79** 96 (2019).