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Theoretical Analysis of Noise Induced Quantum Coherence YIYU ZHOU, DMITRI VORONINE, MARLAN SCULLY, Texas A&M Univ, IQSE TEAM — Quantum coherence has recently been studied in quantum heat engines such as lasers, solar cells, and photosynthetic complexes. Noise-Induced Coherence (NIC) can be spontaneously generated and does not require external laser sources. We investigate perform theoretical analysis of the effects of NIC under various conditions and the dependence on various parameters such as sample geometry and dynamics. Our work may lead to better understanding of photosynthesis and to development of more efficient solar cells.

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