

Abstract Submitted
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Quantum coherent dynamics of the V-system strongly driven by incoherent light SUYESH KOYU, TIMUR TSCHERBUL, University Of Nevada Reno — The three-level V-system is a minimal model to describe the energy transfer dynamics in photosynthetic light-harvesting complexes illuminated by incoherent light. To investigate the role of quantum coherence in the operation of light-harvesting devices under strong incoherent illumination, we solve the Bloch-Redfield quantum master equations and obtain analytic expressions for the population and coherence dynamics of the symmetric V-system. We observe the emergence of a slowly decaying eigenmode, suggesting the presence of long-lived coherences induced by strong incoherent driving.

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