

Abstract Submitted
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Radical-Ion-Pair Spin Decoherence and the Quantum Efficiency of Photosynthetic Charge Separation IANNIS KOMINIS, University of Crete - Department of Physics, A.T. DELLIS, NIST, Boulder, USA — We have pioneered the fundamental quantum dynamics of radical-ion-pair reactions, elucidating the basic spin-decoherence mechanism pertaining to these biochemical reactions. Radical-ion pair reactions appear in the avian magnetic compass, but more importantly, they participate in the cascade of electron-transfer reactions taking place in photosynthetic reaction centers. We will here present new insights on how the fundamental quantum dynamics of radical-ion pair reactions affect the quantum efficiency of charge separation in photosynthetic reaction centers.

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