



Showcasing research from the group of Dr Oleg Poluektov at Argonne National Laboratory, USA

Light-induced electron spin qubit coherences in the purple bacteria reaction center protein

This study utilizes high-frequency electron paramagnetic resonance spectroscopy to investigate spin coherence in purple bacteria reaction center proteins. It examines the role of local molecular environments and isotopic substitutions on spin-correlated radical pairs formed during light-induced electron transfer. The findings highlight how protein microenvironments and methyl group dynamics influence spin decoherence. These insights advance strategies for optimizing coherence times in quantum information science and sensing applications.

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See Oleg G. Poluektov *et al.*,
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