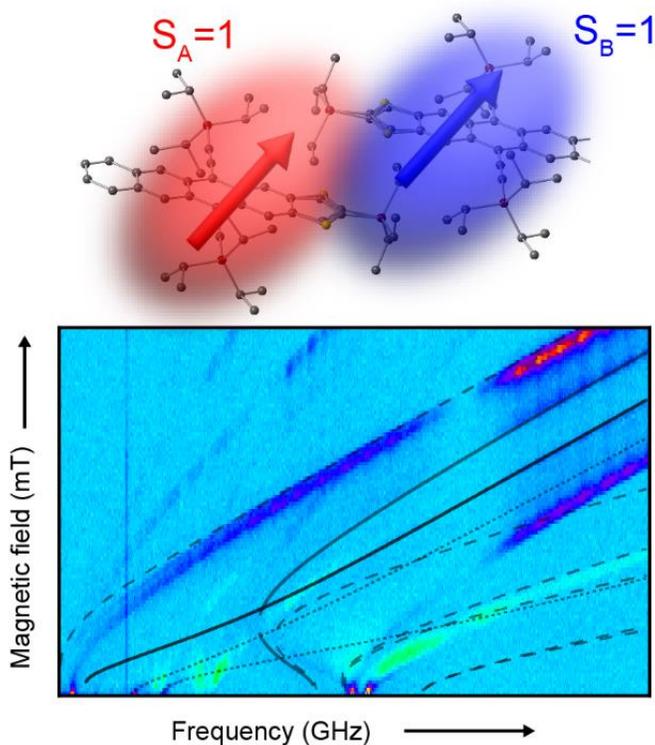


Advanced Magnetic Resonance Tools for Spin-Based Qubit Characterization

1PM MST, Friday, November 18, Green Center 224
and on Zoom (see details below)



Our group at NREL has been developing and adapting various magnetic resonance tools to study the dynamics of spin states in molecular and nanoscale semiconductors. Most of these techniques involve light excitation, which creates, and in some cases initializes, spin qubits with unique signatures in magnetic field- or frequency swept spectra. The pattern of resonances and their evolution with time from femtoseconds to seconds can be used to characterize exchange and dipolar couplings that reveal excited state transitions and dephasing routes. There are translational opportunities for these techniques to a variety of other spin-based qubit systems that we hope to explore further.



COOKIES AND COFFEE WILL BE SERVED!



Justin Johnson has been a senior scientist at the National Renewable Energy Laboratory (NREL) since 2008 and is also a joint appointee in Chemistry at Colorado School of Mines. He received his Ph.D. in Chemistry from the University of California, Berkeley, in 2004 and subsequently did postdoctoral work with Dr. Arthur Nozik at NREL and Prof. Josef Michl at the University of Colorado, Boulder. His technical expertise is in ultrafast and nonlinear spectroscopy, and his research interests include investigating the dynamics of photophysical phenomena associated with solar light harvesting, energy storage, and quantum information in both molecular and nanoscale semiconductor systems.

Join from PC, Mac, Linux, iOS or Android: <https://mines.zoom.us/j/94867108080?pwd=aS9PaFplaXd3dGZQbjJQcFdrTORldz09> Password: 652548

Or iPhone one-tap: 17193594580,94867108080# or 12532158782,94867108080#

Or Telephone: Dial: +1 719 359 4580 (US Toll) or +1 253 215 8782 (US Toll) Meeting ID: 948 6710 8080 Intl. numbers available:

<https://mines.zoom.us/j/94867108080?pwd=aS9PaFplaXd3dGZQbjJQcFdrTORldz09>

Or a H.323/SIP room system: H.323: 162.255.37.11 (US West) or 162.255.36.11 (US East) Meeting ID: 948 6710 8080 Password: 652548

SIP: 94867108080@zoomcrc.com Password: 652548