

Abstract Submitted
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Spin Fluctuation and Coherence in Concentrated systems¹ JOHAN VAN TOL, Florida State University, National High magnetic Field Laboratory, JINGFANG WANG, Florida State University, Department of Chemistry and Biochemistry, ZHENXING WANG, University of California at Los Angeles, Department of Electrical Engineering, SUSUMU TAKAHASHI, University of Southern California, Department of Chemistry — In materials with a relatively high density of electron spins without direct exchange pathways, the spin decoherence tends to be dominated by dipolar-interaction mediated spin-exchange/diffusion processes. These spin exchange processes will significantly be reduced at high magnetic fields and low temperatures when the spin polarization approaches the saturation limit. We will show some examples of single crystals of molecular magnetic complexes in which the decoherence is measured experimentally at high frequencies, and which form a reference for direct theoretical models that predict the spin decoherence in these systems, and their dependence on orientation, temperature and field.

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Johan van Tol
Florida State University, National High magnetic Field Laboratory

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