

## **Internal Seminar**

### **The behaviour of strongly and weakly dipolar coupled spins in Radio Frequency-Driven Recoupling (RFDR) experiment**

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Homonuclear dipolar interactions encode information about the inter-nuclear distances amongst similar spins. Radio Frequency-Driven Recoupling (RFDR) experiment is the widely used technique for recoupling the homonuclear dipolar interactions through the zero-quantum (ZQ) Hamiltonian. Dipolar truncation inhibits the flow of magnetization to weakly coupled spins in the presence of strong dipolar couplings. We observe that dipolar truncation effect in carbons is similar to that predicted by theory while the dipolar truncation in strongly coupled spin system is virtually absent.

We combine analytic calculations and numerical simulations to understand the dipolar truncation effect in weakly and strongly coupled spin systems.

#### **References:**

1. Bennett, A. E., et al. The Journal of chemical physics 96 (1992): 8624.
2. Bayro, Marvin J., et al. The Journal of chemical physics 130 (2009): 114506.

***Tuesday, Jun 20<sup>th</sup> 2017***

***4:00 PM (Tea/Coffee at 3:45 PM)***

***Seminar Hall, TCIS***