

Students' Annual Seminar

Solid-State NMR: Decoupling and multiple data acquisition

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Solid-state NMR is a very flexible and powerful technique for elucidation of geometry and dynamics information on a variety of samples. However, there is still a need to overcome sensitivity and resolution aspects along with the necessity to carry out multidimensional experiments in a short span of time. In order to overcome these challenges, we have made use of two approaches. First approach involves a unified strategy of two-pulse based heteronuclear decoupling for high-spinning frequencies and low-power irradiation which incorporates simultaneous time and phase modulation. This approach not only highlights the existing solutions but also generates new solutions for efficient decoupling. Secondly, in order to speed up the data acquisition process, pulse sequences that implement sequential acquisition strategies on one and two radio frequency channels with a combination of proton and carbon detection has been implemented. This talk will explore several aspects related to better decoupling techniques under magic-angle spinning and static conditions along with the strategies to speed up the multidimensional data acquisition.

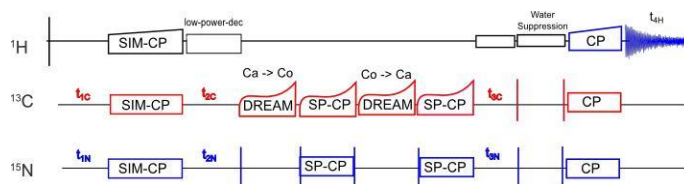


Fig 1: Schematic representation of multiple sequential acquisition experiments via proton and carbon detection.

Thursday, May 4th 2017

11:30 AM (Tea/Coffee at 11:15 AM)

Seminar Hall, TCIS