

## **Abstrat**

Understanding the mechanism of polarization transfer in NMR spectroscopy is an active area of research both from an experimental as well as theoretical perspective. In this regard, an analytic theory based on the reduced density matrix formalism is proposed to develop models for quantifying the polarization transfer among spins in the solid-state. We believe that the analytic results could be quite handful in quantifying the polarization transfer in band-selective and relayed polarization experiments in solid-state NMR.