NMR with Machine Learning

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Abstract

Constant current continuous wave Nuclear Magnetic Resonance (NMR) has
been an essential tool for polarized target experiments in Nuclear and
High-energy physics. Q-meter based phase-sensitive detection can provide
accurate monitoring of the polarization over the course of a scattering
experiment with limitations due to some operational parameters. In this talk,
we present recent studies of improved signal to noise in polarization
measurements as well as reliable measurements outside of the designated range
of the Q-meter's operational parameters with the use of machine learning
(ML).