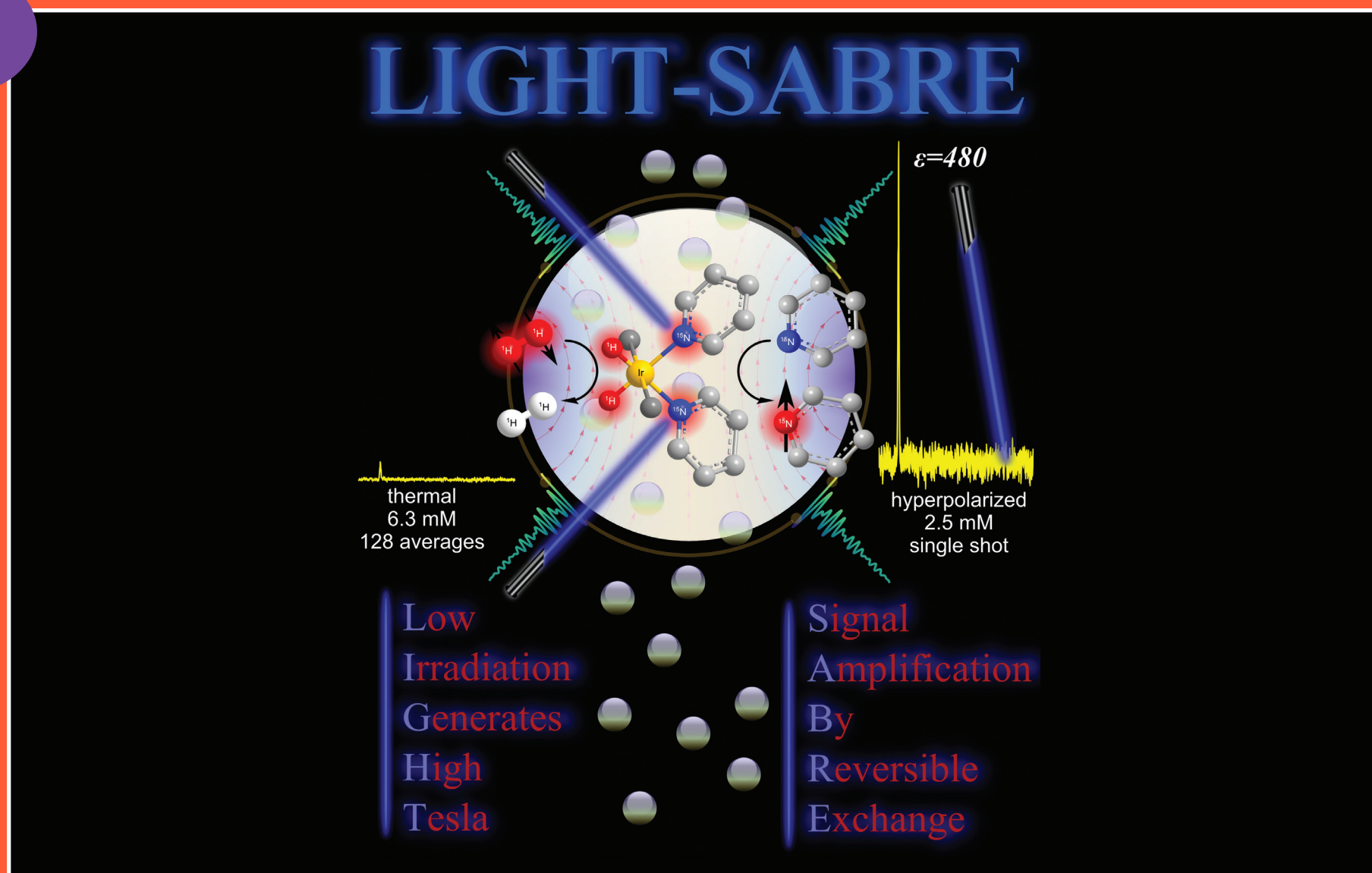


nmr is science



LIGHT-SABRE

Thomas Theis, 2014

Chemistry Department | Duke University

Field strength: 9.4 T

Why is this your favorite spectrum?

First LIGHT-SABRE spectrum. The acronym stands for Low-Irradiation Generates High Tesla Signal Amplification By Reversible Exchange. This method creates hyperpolarized substrates directly in liquids at any magnetic field. LIGHT-SABRE pulses are specifically designed RF pulses that are irradiated onto nitrogen-15 nuclei bound to a polarization transfer catalyst. This polarization transfer catalyst undergoes reversible exchange with parahydrogen and the nitrogen-15 labeled substrate. On the catalyst, the LIGHT-SABRE pulse induces polarization transfer from parahydrogen to substrate.