

LOOK LOCKER FFC NMR SEQUENCE: A TIME SAVING APPROACH IN MEASUREMENT OF LONG T1 WITH FFC NMR EXPERIMENTS AT ANY RELAXATION FIELD

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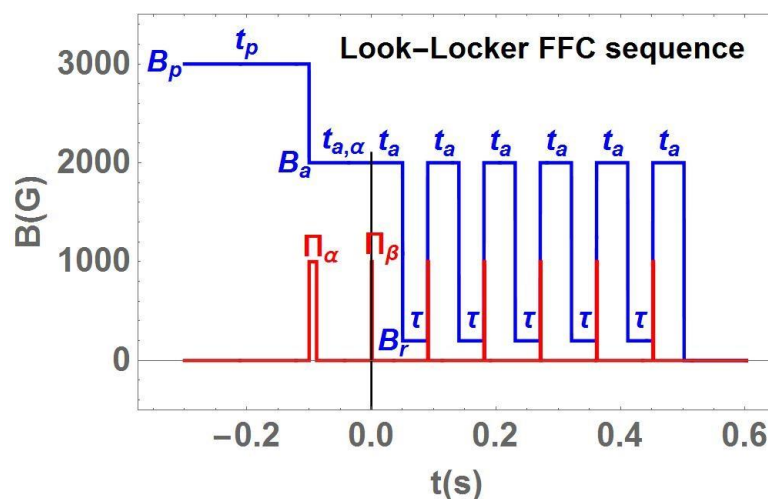
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The traditional NMR time domain sequences (inversion recovery and saturation recovery) used for the determination of T1, need to be repeated for every tau used to describe the decay of the magnetization. Experiment times mainly depend on the length of the T1 to be observed and the number of tau needed to sample the decay of the magnetization in a given relaxation field. This approach, in particular for long T1's, can become quite time consuming.

The Look Locker NMR method for the determination of T1, is extensively used in MRI as a 'time-saving' approach compared with traditional inversion and saturation recovery methods.

The aim of the work described in the poster is the development and implementation of FFC Look Locker sequences on a SPINMASTER FFC relaxometer. The correct formalism for the T1 fitting of the Look Locker data will also be presented.

Advantages and limitations of the method will be demonstrated and discussed on experimental data acquired by both traditional and Look Locker methods.



References

- [1] D.C. Look and D.R. Locker, "Nuclear Spin-lattice Measurements by Tone-burst Modulation", Physical Review Letters 20, 987 - 989 (1968).
- [2] D.C. Look and D.R. Locker, "Time Saving in Measurement of NMR and EPR Relaxation Times", Review of Scientific Instruments 41, 250 - 251 (1970).