

Target Lab. Update

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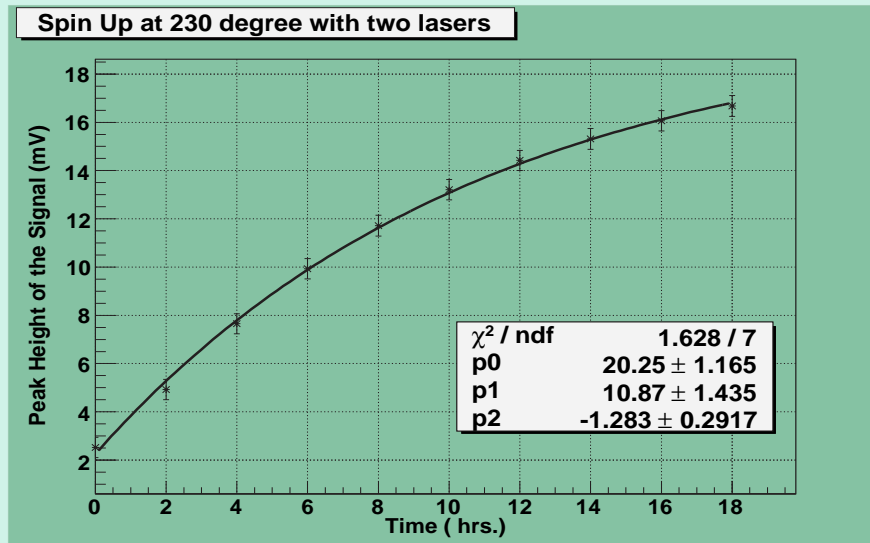
SOME OF THE MEASUREMENTS WE CARRIED OUT

- ^3He NMR (Field / Frequency Sweep)
- EPR
- Water NMR(Field Sweep)
- Spin Flip (with one laser)

(All tests were performed with “Carlos”)

^3He NMR

- Both Field Sweep NMR and Frequency Sweep NMR done with 2 Lasers with 30 W each.
- Spin up curve for Carlos ::

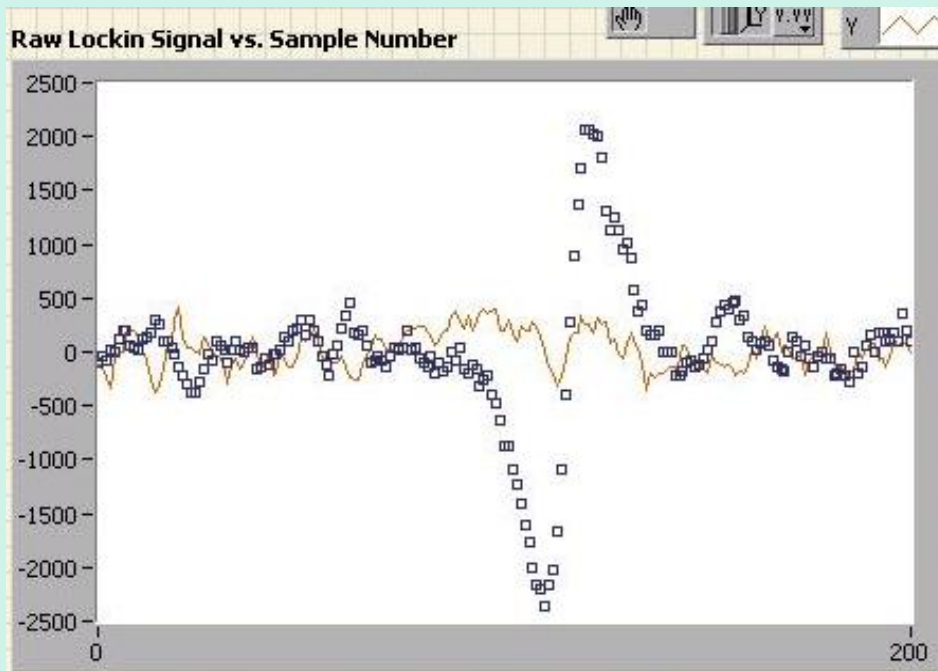


EPR

- Done with 2 lasers @30 W each and at oven temp. 240°C
- Initially had tough time and some problems with the electronics !!
- With the new FG, successfully saw one of the K-signals at 19.59 MHz .
- Could not see any other signal !
- AFP done successfully. Thanks to Ameya !!
- Still to improve a lot in terms of NOISE etc.

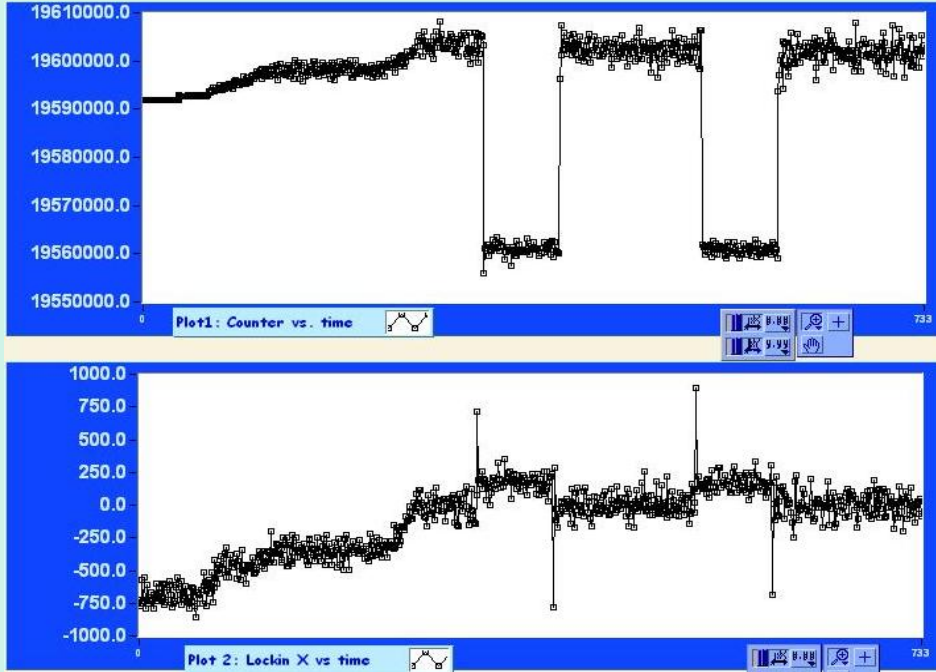
EPR

- Frequency Lineshape :: The resonance is at 19.59 MHz



EPR

- AFP :: Noisy !!

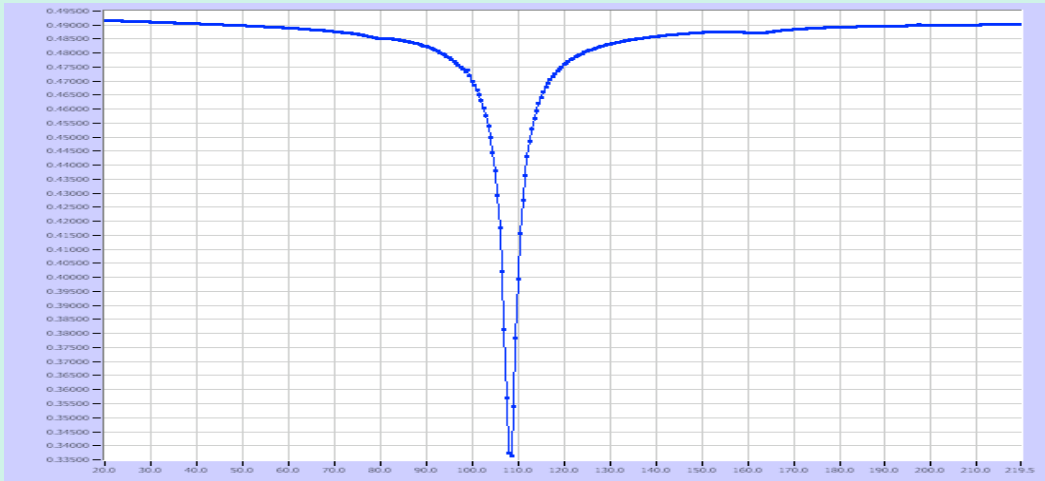


SPIN FLIP

- Done with 1 laser and single pass.
- Tests performed with both 10min and 20 min wait time.
- With 20 min wait time, the polarization loss is 26%
- Right now, we have all the 6 motorized waveplates.
- Due to mounting difficulties, only 4 of them are installed !!
- Test with 2 lasers is to be carried out shortly.
- NO CONCLUSION yet about the polarization loss.

WATER NMR

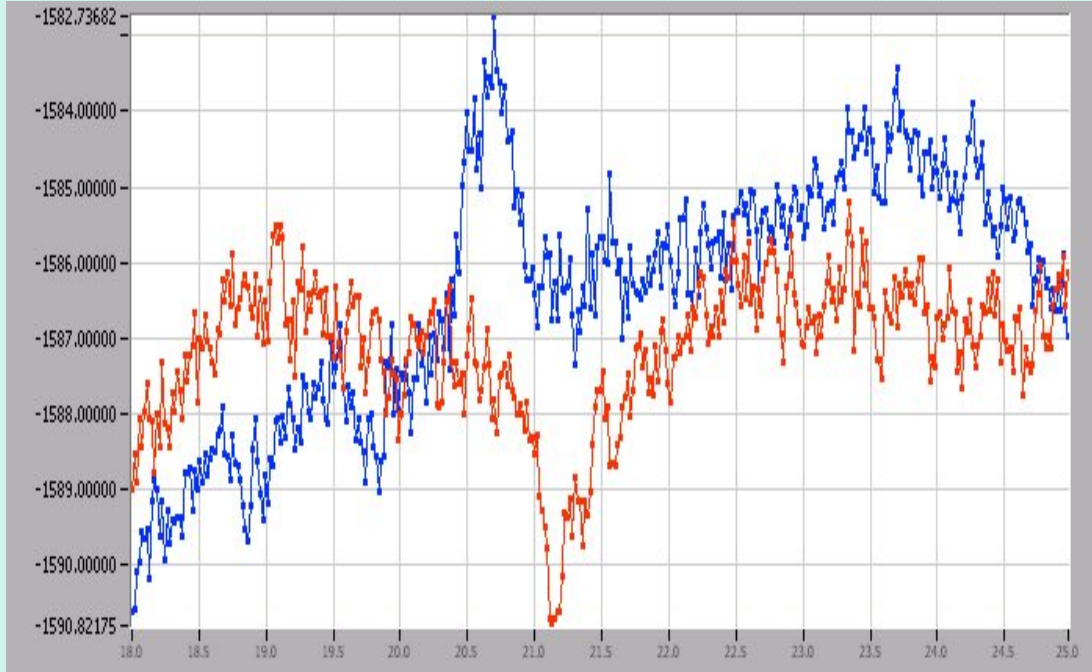
- New pick up coils installed.
- Q-curve ::



- Two field sweep measurements were done.
- Had signal...BUT NOT EVEN CLOSE TO GOOD !!

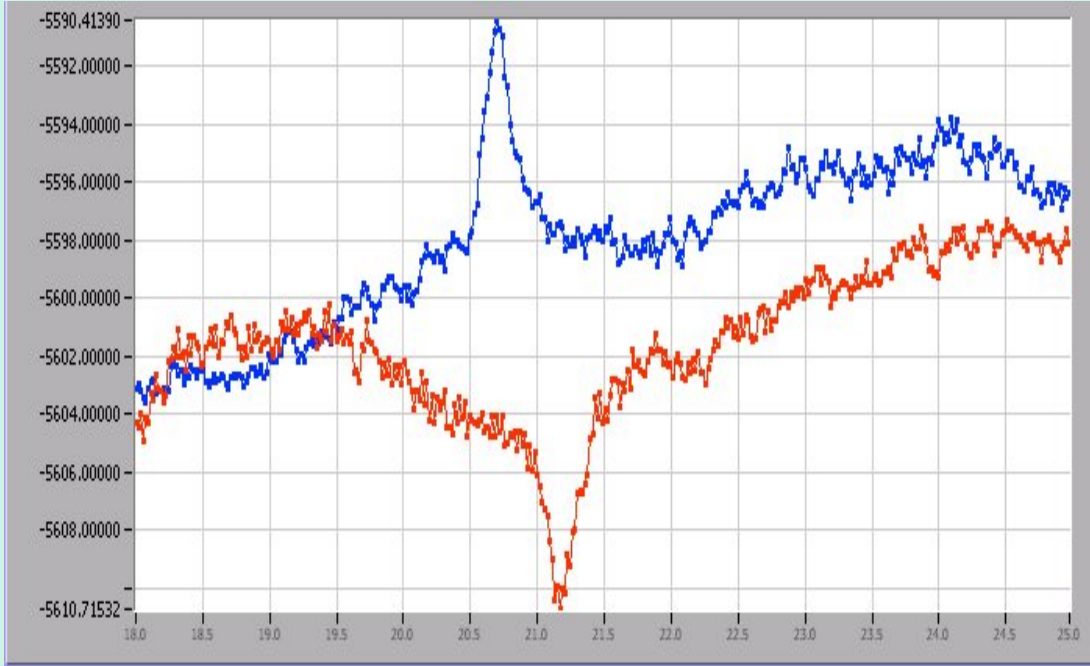
WATER NMR

- With Pre-amp gain = 100



WATER NMR

- With Pre-amp gain = 200



TO CONCLUDE

- Lot of improvements to be done in WATER .
- NextFrequency sweep water ?????
- Still to test the spin flip with all Lasers to get the polarization loss.
- Suggestions,comments are very much needed from all

Thanks !