Transversity
He3 Target Status

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Status Summary

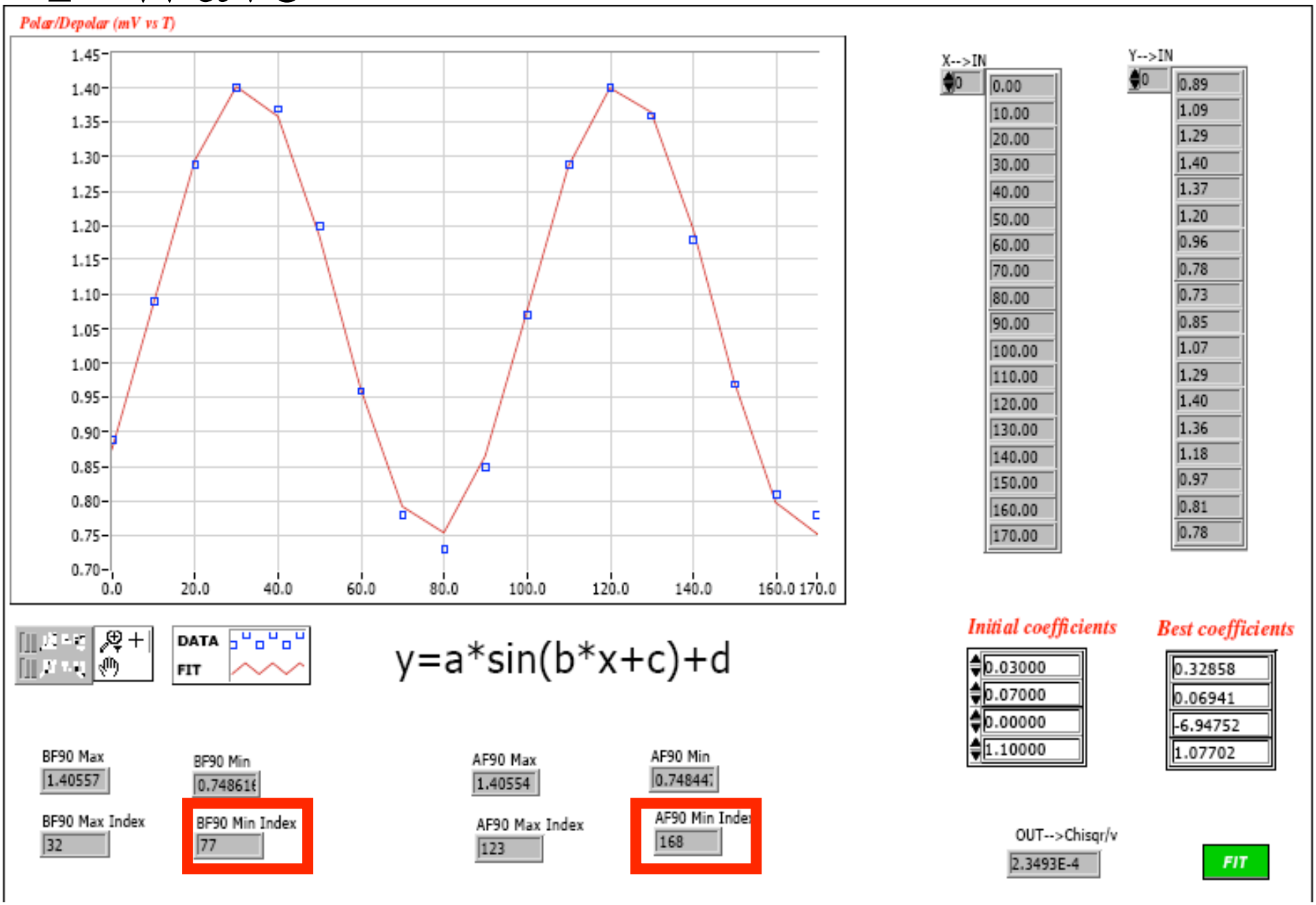
- Rotation Stage (Slide 3)
- Quarter-Waveplate (Slide 4-5)
- Characters of Polarizing Angle (Slide 6-7)
  - Spin-up
  - FS AFP Loss (waiting for data ^_^)
- Spin-Reversal Result (Slide 8-12)
- Conclusion and To do list (Slide 13)

Rotation Stage

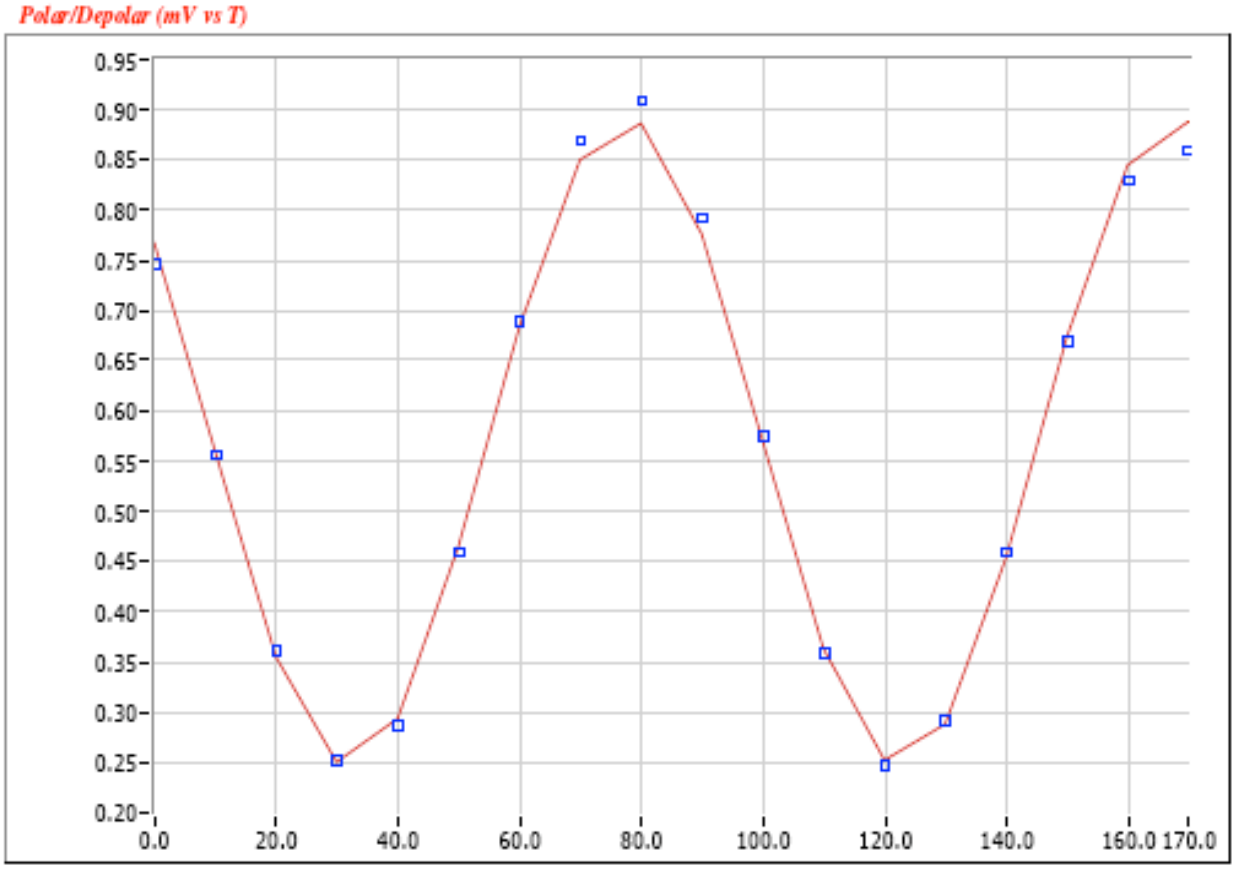
- Max Speed is 50°/s
  - Better we set rotation time to 2s
- Temperature is 36°-38°
- In Configuration Panel

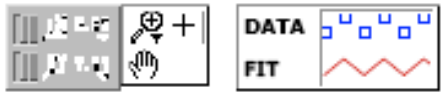
  1°=6400Tics

P-Wave

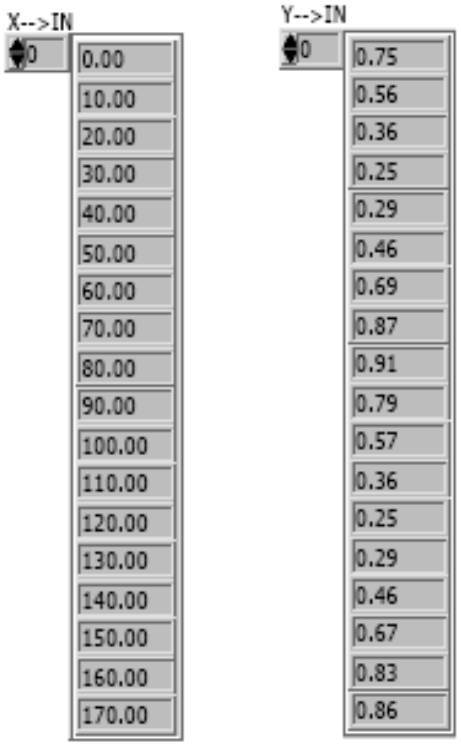

Polar/Depolar (mV vs T)
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
170.0
X-->IN
0
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
110.00
120.00
130.00
140.00
150.00
160.00
170.00
Y-->IN
0
0.89
1.09
1.29
1.40
1.37
1.20
0.96
0.78
0.73
0.85
1.07
1.29
1.40
1.36
1.18
0.97
0.81
0.78
DATA
FIT
y=a*sin(b*x+c)+d
Initial coefficients
0.03000
0.07000
0.00000
1.10000
Best coefficients
0.32858
0.06941
-6.94752
1.07702
BF90 Max
1.40557
BF90 Min
0.74861
BF90 Max Index
32
BF90 Min Index
77
AF90 Max
1.40554
AF90 Min
0.74844
AF90 Max Index
123
AF90 Min Index
168
OUT-->Chisqr/v
2.3493E-4
FIT

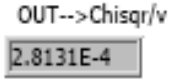
S-Wave



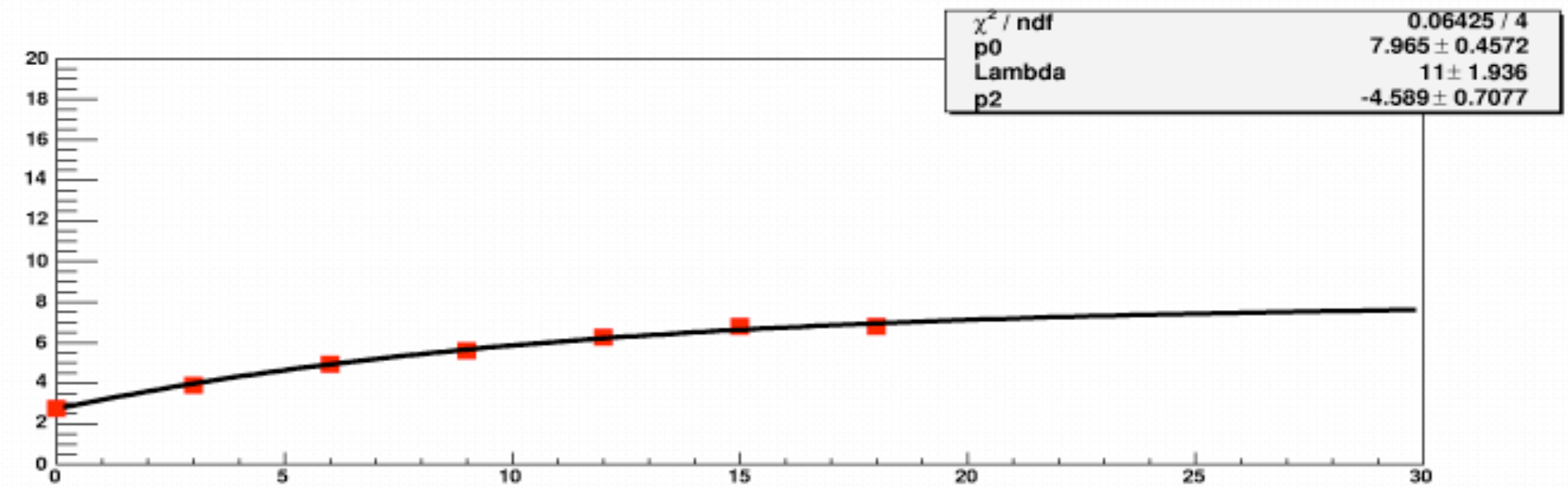


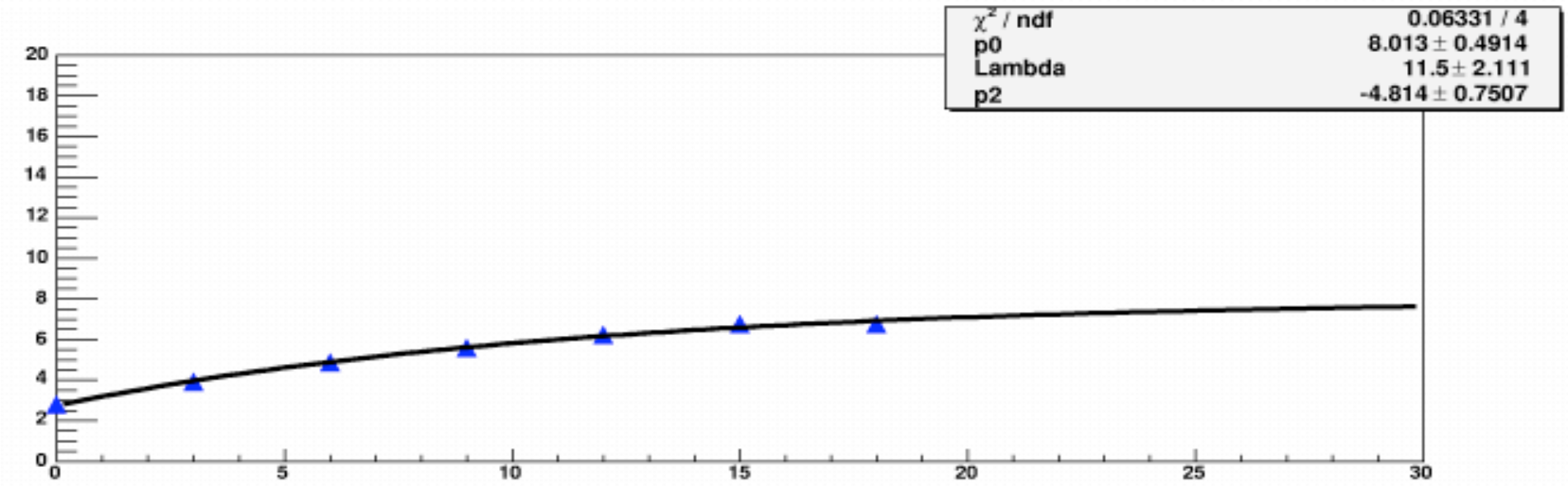
$$y=a*\sin(b*x+c)+d$$



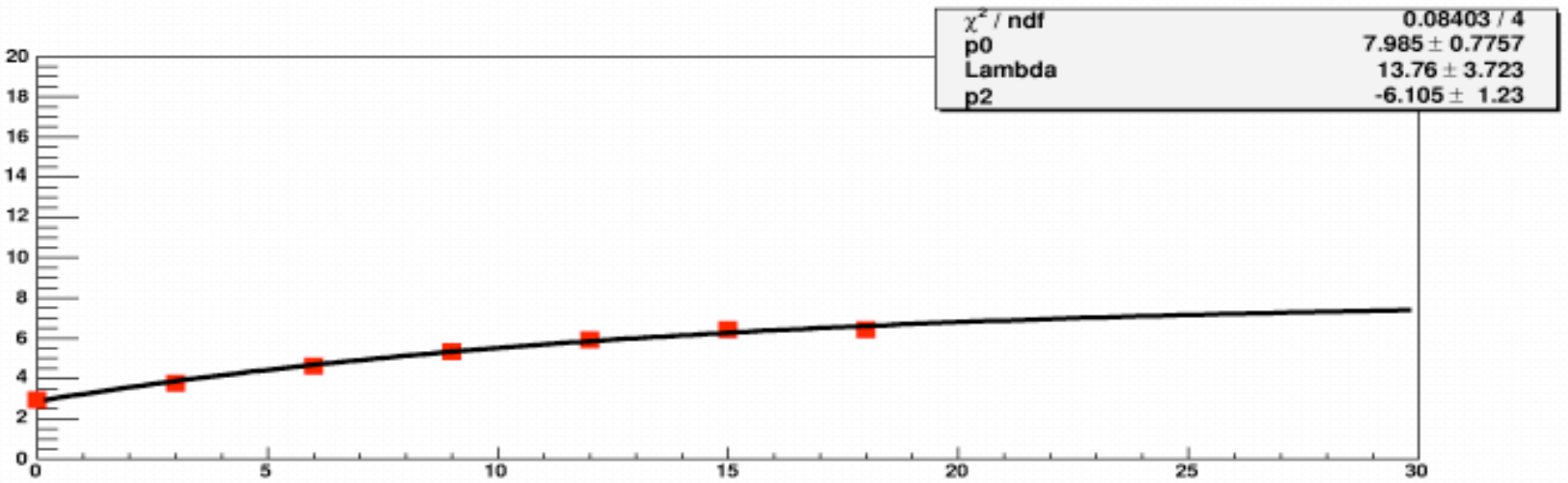


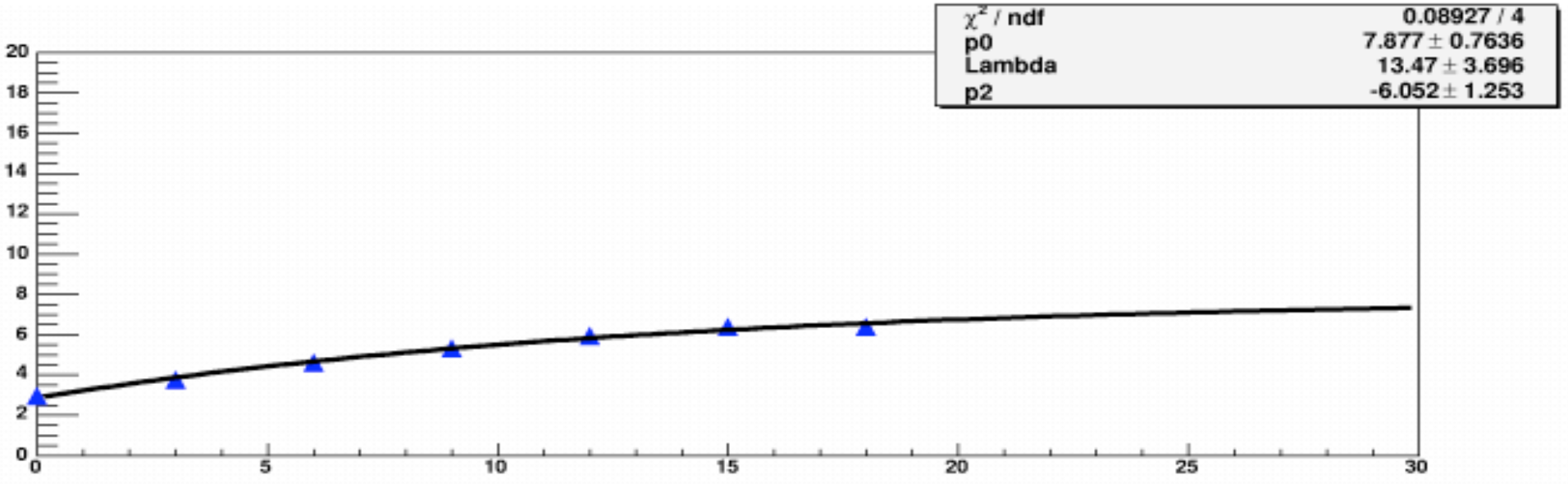
Angle 168 Spin-Up



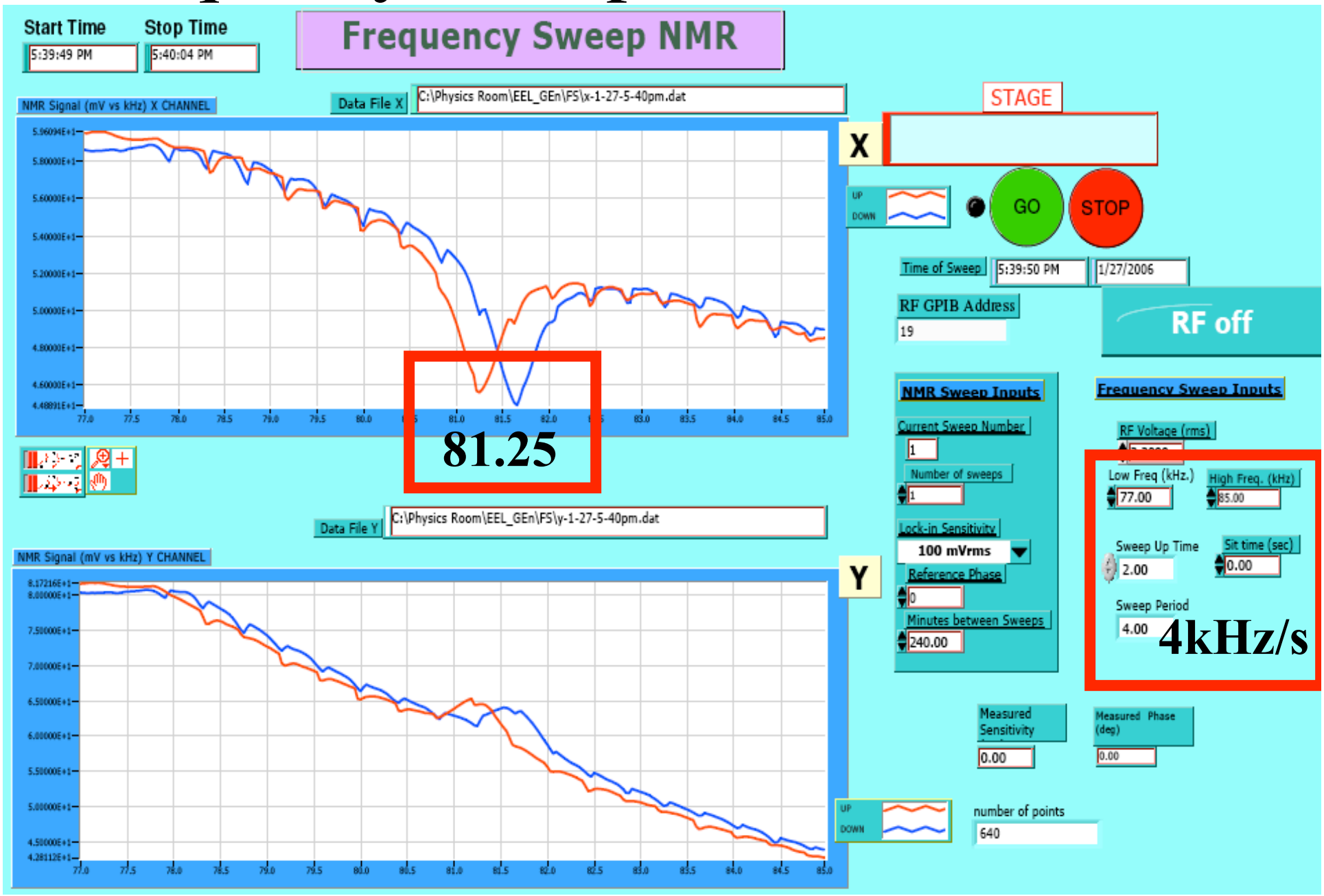


Angle 77 Spin-Up

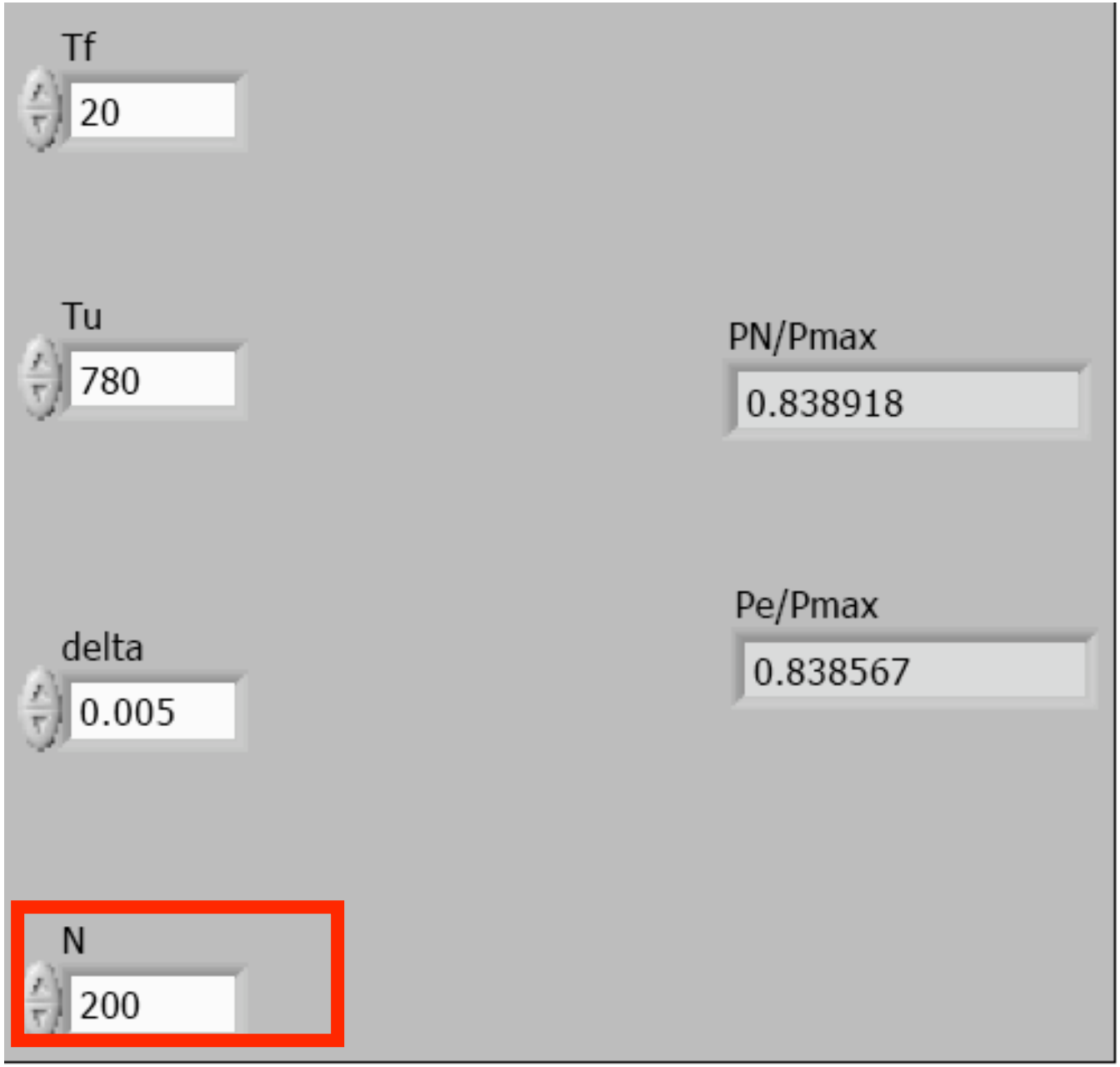




Frequency Sweep



Pn&Pe

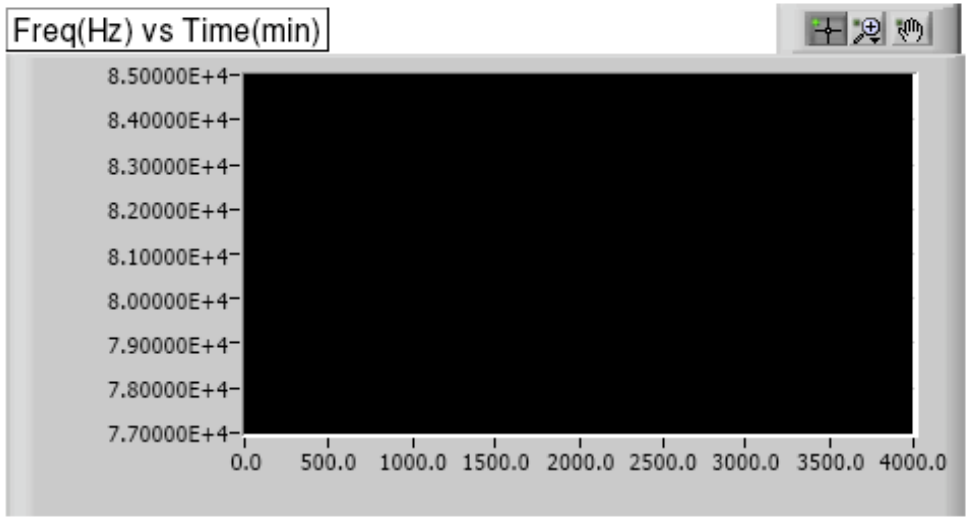


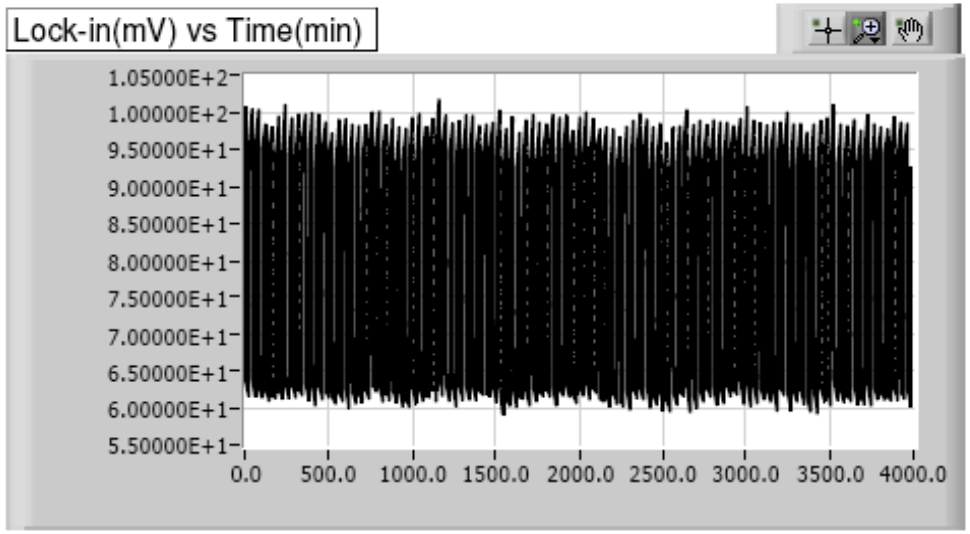
Spin Reverse

Spin Reverse for NMR

TO

1/30/2006, 12:24:21 PM





SRNMR Data File

C:\Physics Room\hyao\Spin Reverse\SRNMR-2006-1-30-12-24-14.dat

Status

Waiting for Sweep

Current Cycle 1

Time 0 0.00E+0

Sweep StartTime 5:44 PM

SR844 Phase 0

Freq 0 7.70E+4

Sweep EndTime 12:31

Rotator Connection

Rotator ON

Lock-in 0 1.01E+2

Sweep ElapsedTime 4000.00 min

Current Angle 168

Sweep StartPint 32.23 s

Sweep EndPoint 240432.23 s

Parameters

HP3324A

Start Freq 77000.00 Hz

# of cycle 200

Stop Freq 85000.00 Hz

Sweep Time 2.00 sec

RF Ampl 3.20 Vrms

Wait Time 20.00 min

SR844 Lock-in

Sensitivity: 100 mVrms

Time Constant: 10 ms

Sweep Mode Auto / Manual

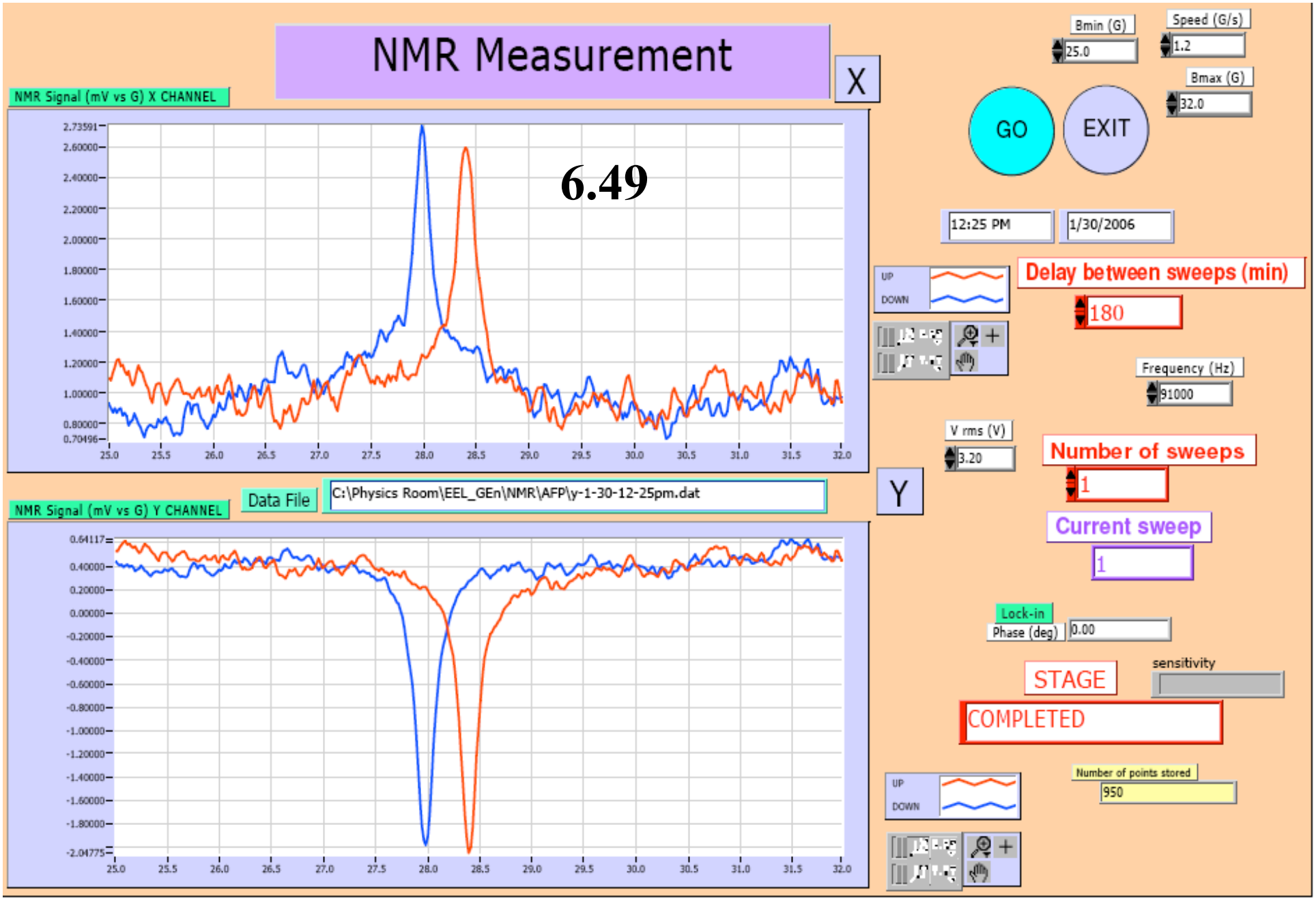
HP3324A GPIB 19

SR844 GPIB 8

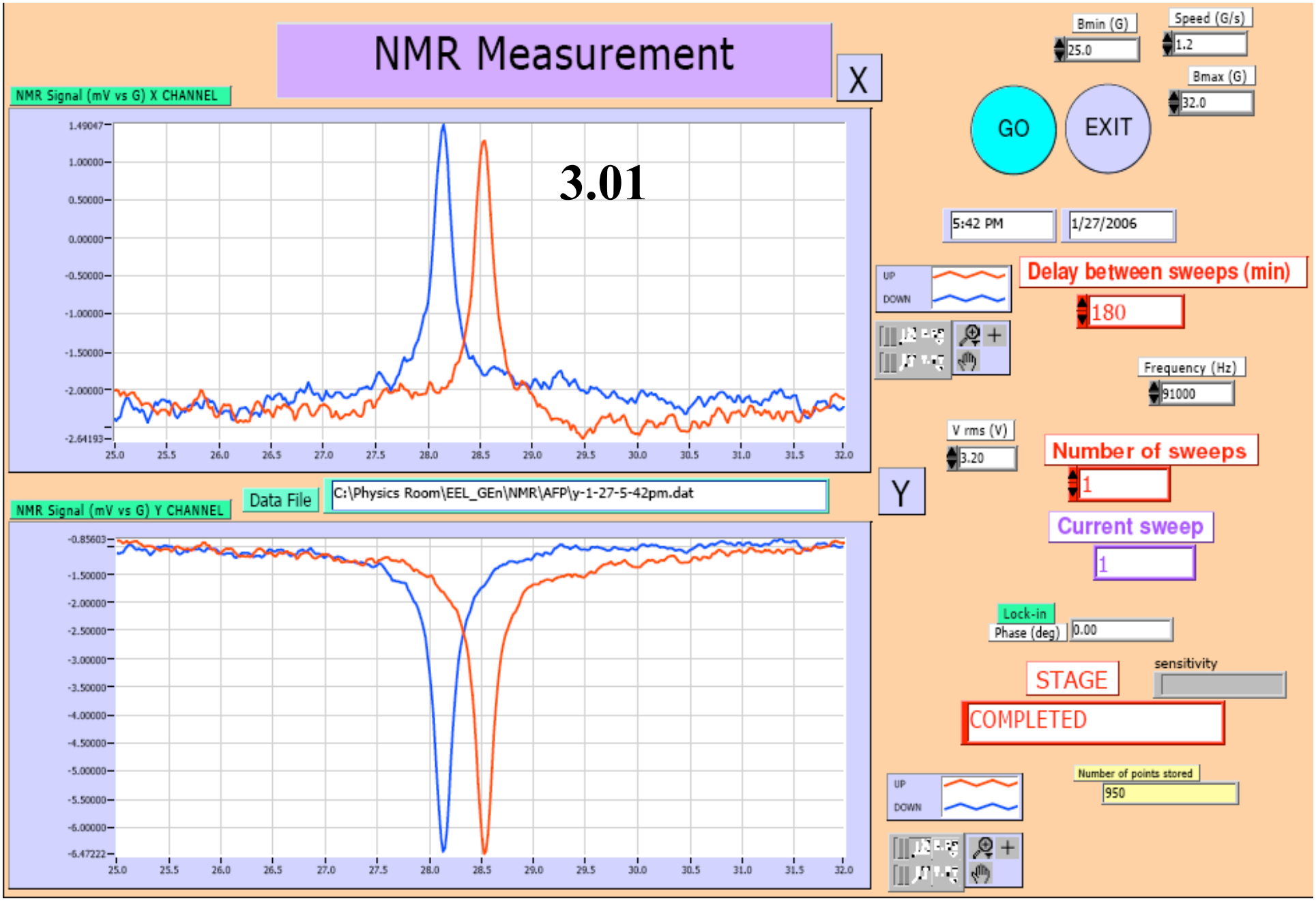
Rotation Angle 90.00

Clear Graph | SWEEP | SET ROTATOR | EXIT

NMR Before Run SP



NMR After Run SP



Conclusion and To do

From these date, we got delta = 3%
It seems not to match our experiment result delta=0.3%-1%
So it must have sth wrong during SP.
The main work is to find what depolarizes the target during spin flip.