## fsNMR – Data Review Program Operation Procedure

1. From C:/Users/hdice/Desktop, open fsNMR - LATEST

- 🕆 💻 - This P	PC > Windows (C:) > Users > hdice > Desktop	~ 0	Search Desktop		
Outlete annual	Name	Date modified	Туре	Size	
Decision di	fsNMR - LATEST	8/5/2020 8:07 AM	File folder		
Documente #	TSNIMK previous versions	6/24/2020 11:26 AM	File tolder		
Documents x	HDice NMR	2/6/2020 1:16 PM	File folder		
Downloads x	HDice NMR with Sync - V48- GPIB - LabVIEW 2018- field average	2/6/2020 1:16 PM	File folder		
Pictures x	Rack #1	2/5/2020 4:13 PM	File folder		
DSG_Slow_Contr #	Annotation 2020-02-04 142844.png	2/4/2020 2:28 PM	PNG File	17 KB	
Tyler 🖈	fsNMR - STAGE 1.zip	4/20/2020 10:41 AM	Compressed (zipp	122,961 KB	
fsNMR - LATEST 🖈	fsNMR - STAGE 2.zip	4/20/2020 10:42 AM	Compressed (zipp	123,108 KB	
2020-07-22_102306	HDice NMR with Sync - V48- GPIB - LabVIEW 2018- field avera	3/18/2020 8:37 AM	Compressed (zipp	121,899 KB	
Desktop	Microsoft Edge	1/30/2020 3:25 PM	Shortcut	2 KB	
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PD NMR 2005 (FRS)	I ISNMR - LATESTZIP	8/5/2020 8:25 AM	Compressed (zipp	U KB	
OneDrive					
This PC					
Network					

2. Open NMR Programs' LabVIEW Project

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Christian and and	Name	Date modified	Type	Size		
Decision of	CAENels CT-Box Current Shunt	6/10/2020 10:04 AM	File folder			
Desktop //	fast resonance scanner	6/10/2020 10:04 AM	File folder			
Documents #	fsNMR-results	8/5/2020 8:17 AM	File folder			
Downloads #	GPIB Oxford IPS 120 Drivers	6/10/2020 10:04 AM	File folder			
Pictures *	MA drivers	6/10/2020 10:04 AM	File folder			
DSG_Slow_Contr #	NEW HDICE Labview PS Control-with 200	6/10/2020 10:04 AM	File folder			
Tyler #	8 NMR Rack Program Versions	6/10/2020 10:04 AM	File folder			
SNMR - LATEST #	PRB collection of SR844 Lock-in Amp Dri	6/10/2020 10:04 AM	File folder			
2020-07-22 102306	PRB NMR Test Tables	6/10/2020 10:04 AM	File folder			
Darkton	PRB Revised for NMR Sync Mode	6/10/2020 10:04 AM	File folder			
LiDice MMD with Fu	PRB Test Programs	6/10/2020 10:04 AM	File folder			
HOICE NAIK WIDT SY	sensor drivers	6/10/2020 10:04 AM	File folder			
PD NMR 2005 (FRS)	VISA Oxford IPS 120 Drivers V1	6/10/2020 10:04 AM	File folder			
OneDrive	FRS test data.txt	6/3/2020 4:26 PM	Text Document	34 KB		
	NMR Control 2018 - Sync Mode - with_se	3/24/2020 9.58 AM	LabVIEW Instrument	1,173 KB		
Inis PC	NMR Control 2018 - with_sensors with GP	8/5/2020 8:07 AM	ALIASES File	1 KB		
Network	The second secon					
	NMR Control 2018 - with_sensors with GP	8/4/2020 4:15 PM	LabVIEW Project	45 KB		

3. From LabVIEW project explorer window, open "fsNMR - data review.vi"



4. Run program using run arrow in top left of front panel



5. Upon running program, a file explorer window will automatically open in fsNMR results directory. Select run directory containing data to review.

→ 🗠 🛧 📙 « Wi	indows (C:) > Users > hdice > Deskto	p > fsNMR - LATEST > fsNMR-	results >	v Ö 🗸	Search fsNMR-results	
ganize 🔻 New folde	er				8== ▼	
Desktop 🛷 ^	Name	Date modified	Туре	Size		
🕄 Documents 🖈	2020-08-05_081732	8/5/2020 8:19 AM	File folder			
🕹 Downloads  🖈	2020-08-05_081320	8/5/2020 8:16 AM	File folder			
📰 Pictures 🛛 🖈	2020-07-20_125746	8/5/2020 8:09 AM	File folder			
DSG_Slow_Cc *	2020-07-21_113423	8/4/2020 4:14 PM	File folder			
Tyler 🖈	2020-07-22_102306	8/4/2020 4:13 PM	File folder			
	2020-08-03_152323	8/3/2020 3:25 PM	File folder			
- 1514WIK - LATE #	2020-08-03_151130	8/3/2020 3:17 PM	File folder			
2020-07-22_1023	2020-08-03_150327	8/3/2020 3:09 PM	File folder			
Desktop	2020-08-03_145124	8/3/2020 2:57 PM	File folder			
HDice NMR with	2020-08-03_144303	8/3/2020 2:46 PM	File folder			
PD NMR 2005 (F	Run Result Screenshots	7/23/2020 3:23 PM	File folder			
OneDrive	2020-07-20_171836	7/20/2020 9:28 PM	File folder			
OneDrive	2020-07-19_224149	7/20/2020 8:52 AM	File folder			
This PC	2020-07-18_152450	7/19/2020 1:59 AM	File folder			
Network Y	2020-07-17_165028	7/17/2020 5:16 PM	File folder			
File n	ame:					
File In						_

6. Select "all\_cycles" directory.

Select directory containing	) data to review.					×
$\leftarrow \rightarrow \checkmark \uparrow$ $\square$ « hdic	e > Desktop > fsNMR - LATEST > fsNMR-	results > 2020-07-20_12574	6 > ~ ~	ට , Sear	ch 2020-07-20_1	25746
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📕 Desktop 🛛 🖈 🔨	Name	Date modified	Туре	Size		
🗄 Documents 🖈	all_cycles	7/20/2020 12:57 PM	File folder			
👆 Downloads 🖈	averaged_results.txt	//20/2020 5:15 PM	lext Document	153 KB		
📰 Pictures 🛛 🖈	raw_data_averaged-reviewed.txt	8/5/2020 8:09 AM	Text Document	153 KB		
DSG_Slow_Cc 🖈	system-settings.txt	7/20/2020 5:17 PM	Text Document	1 KB		
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fsNMR - LATE 🖈						
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File nar	me:					~
			Current F	older Save	Ca	incel

7. Decide whether to review the scaled or raw data and open that folder.

Select directory containing data	a to review.							×
$\leftarrow$ $\rightarrow$ $\checkmark$ $\Uparrow$ 🔒 « Desktop	> fsNMR - LATEST > fsNMR-results > 20	20-07-20_125746 → all_cyc	les →	ٽ ~	,⊂ Search a	ll_cycles		
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L			I	Current Folder	Save	(	Cancel	

8. Click "Current Folder" button at the bottom right of file explorer window.

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anize 👻 New folde	r					
Desktop 🖈 ^	Name	Date modified	Туре	Size		
😫 Documents 🖈	cycle_1.txt	7/20/2020 1:11 PM	Text Document	153 KB		
🕹 Downloads  🖈	cycle_2.txt	7/20/2020 1:24 PM	Text Document	153 KB		
Nictures 🖈	cycle_3.txt	7/20/2020 1:37 PM	Text Document	153 KB		
DSG Slow Cc #	cycle_4.txt	7/20/2020 1:50 PM	Text Document	153 KB		
Tyler	cycle_5.txt	7/20/2020 2:03 PM	Text Document	153 KB		
	cycle_6.txt	7/20/2020 2:16 PM	Text Document	153 KB		
TSINIVIK - LATE #	cycle_7.txt	7/20/2020 2:29 PM	Text Document	153 KB		
2020-07-22_1023	cycle_8.txt	7/20/2020 2:41 PM	Text Document	153 KB		
Desktop	cycle_9.txt	7/20/2020 2:54 PM	Text Document	153 KB		
HDice NMR with	cycle_10.txt	7/20/2020 3:07 PM	Text Document	153 KB		
PD NMR 2005 (F	cycle_11.txt	7/20/2020 3:20 PM	Text Document	153 KB		
	cycle_12.txt	7/20/2020 3:33 PM	Text Document	153 KB		
OneDrive	cycle_13.txt	7/20/2020 3:46 PM	Text Document	153 KB		
This PC	cycle_14.txt	7/20/2020 3:58 PM	Text Document	153 KB		
Network Y	cycle_15.txt	7/20/2020 4:11 PM	Text Document	153 KB		
File na	ime:					```

- 9. Data will automatically plot all cycles' data, calculate the average of all cycles, and plot the data for R, phase, X, and Y.
  - a. Average will be plotted in red with red data markers.
- 10. Review data by selecting which cycles to plot and include in average by checking/unchecking items in the list on left of front panel.
  - a. As items are checked/unchecked, average will be automatically recalculated and replotted.
- 11. When finished reviewing data, click stop button at top right of front panel.



- 12. After clicking "Stop", a prompt will appear asking whether to save average of reviewed data as a new file.
  - a. The resulting files will be named "<type>\_data\_averaged-reviewed.txt" where <type> will be scaled or raw, depending on which directory user selected in step 7.
  - b. If the file to be created already exists, "\_<#>" will be appended to the file name where
     <#> is the next digit that allows the file name to be unique,



## NOTE:

In file created containing the average of reviewed data, there is a new line added to the top of the file preceded by a # (pound sign) stating which cycles were removed from the average during the review.

```
raw_data_averaged-reviewed.txt - Notepad
File Edit Format View Help
#After review, cycle 1, cycle 2, cycle 3, cycle 4, and cycle 5 removed from average
fsNMR results - average data after review
                      Phase X
               R
Frequency
                                     Y
4.000000E+4
               1.363021E-4 -9.783069E+1 -1.857333E-5 -1.350472E-4
4.000200E+4
             1.363995E-4
                             -9.783547E+1
                                            -1.859952E-5
                                                           -1.351447E-4
4.000400E+4
               1.364961E-4
                             -9.783949E+1
                                            -1.861898E-5
                                                           -1.352392E-4
                              -9.784571E+1
4.000600E+4
               1.365955E-4
                                            -1.864986E-5
                                                           -1.353339E-4
4.000800E+4
               1.366881E-4
                             -9.785559E+1 -1.868410E-5
                                                           -1.354239E-4
4.001000E+4
               1.367759E-4
                             -9.787244E+1
                                            -1.873715E-5
                                                           -1.355039E-4
4.001200E+4
               1.368700E-4
                             -9.788416E+1 -1.878012E-5
                                                           -1.355917E-4
```