Quantum NMR Spectrometer

Command and Parameter Manual

Q.One Instruments Ltd.

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Contents

1. Overview

a. Introduction

1. This document is the command and parameter manual of the NMR spectrometer control and data processing software of Q.One Instruments Ltd., and describes the commands and parameters used in the software. For the software experiment operation method, please refer to “SpinStudioJ User Manual”.

2. This document describes in detail the syntax, functions, input and output parameters of the commands in the software.

3. The parameters of the command are divided into acquisition parameters and processing parameters. The acquisition parameter refers to the parameters related to the acquisition control, such as d1 controlling the relaxation time of the acquisition; the processing parameter refers to the parameter related to the data processing, such as the wdw control window function type. The value types of parameters are divided into real type, array type, and string type. To view the value of the parameter, enter the parameter name in the command line. Set the parameter data in the format of “parameter name=data”. If you set d1 to 5, you can type d1=5 in the command line. Then you can get the parameter values of the current active workspace.

4. All commands and parameters are case sensitive, such as aph, Aph is not the same command. All commands and parameters in this software are lowercase.

5. Functionally similar parameters, such as frqb and frqb3, are connected using ~ start and stop symbols, such as "frqb~frqb3".

b. Conventions

All commands are bold and italicized, such as entering the command ***lsh***, which means using the keyboard to type "lsh" on the command line, and then press "Enter".

The buttons in the dialog are expressed in bold text.

2. Command

a. Classification of commands

Depending on the function, commands can be divided into experimental control and data processing. The commands of the experimental control class are aa, bye, go, gs, hi, parray, rtshim, shutdown, etc.; the commands of the data processing are aph, abs, attval, deptproc, dsn, dsnmax, ft, pps, res, wft and so on.

b. Command format description

The input format of the command is divided into two types: the command with the None parameter and the command with the parameter.

(1) The command of the None parameter can directly enter the command name, or you can put parentheses after the command name in the following format:

command_name

command_name()

For example: command ft, you can also enter ft ()

(2) Commands with parameters can be enclosed in parentheses, and multiple parameters need to be separated by commas. You can also separate commands and parameters with spaces, and multiple parameters are also separated by spaces. The format is as follows:

command_name(param1,param2,param3…)

command_name param1 param2 param3…

For example: command attval (power, pw90), you can also enter attval power pw90

Adding a space between the command name, parentheses, or comma when entering a command does not affect the role of the command. The command format shown below can be executed correctly.

command_name ( )

command_name (param1 , param2 , param3)

aa

Name:

aa – Abort acquisition

Description:

Abort acquisition, and cancel the current experiment.

Usage:

aa

Related:

aaa – Abort all acquisitions

aaa

Name:

aaa – Abort all acquisitions

Description:

Abort all acquisitions, includes the workspace being acquired and all workspaces that are queued for acquisitions.

Usage:

aaa

Related:

aa – Abort acquisition

abs

Name:

abs – Automatic baseline correction

Description:

Automatic baseline correction.

Usage:

abs

Related:

dc – drift correction

abs2

Name:

abs2 – Automatic baseline correction using ARPLS

Description:

Automatic baseline correction using the method ARPLS (asymmetrically reweighted penalized least squares smoothing).

Usage:

abs2

Related:

abs – Automatic baseline correction using BCRI

dc – drift correction

aej

Name:

aej – Eject sample use auto sample changer

Description:

Eject sample use auto sample changer.

Usage:

aej

Related:

aij(int) – Inject sample use auto sample changer

again

Name:

again – Automatic gain

Description:

Automatic receiver gain optimization. It performs an acquisition a receiver gain and finally sets this just below the value where no overflow occurs.

Usage:

again

Related:

gain ~ gain3 – receiver gain

aij(int)

Name:

aij(int) – Inject sample use auto sample changer

Description:

Inject sample use auto sample changer

Usage:

aij(1) or aij 1, the auto sample changer injects the sample at position 1 into the magnet.

Related:

aej – Eject sample use auto sample changer

alock

Name:

alock – Automatic lock

Description:

After injection, select the solvent and enter ***alock*** on the command line to complete the automatic lock. If the wrong solvent is selected during the injection, use the command ***selsolvent*** to correct the selected solvent.

Usage:

alock

Related:

None

aph

Name:

aph – 1D automatic phase correction

Description:

This command calculates the phase values of zero and first order and then corrects the spectrum based on these values. The phase values are stored in the variables zph and fph, respectively.

Usage:

aph

Related:

zph – 0th order correction

fph – 1st order correction

applydisp

Name:

applydisp – Apply display parameters to the current workspace

Description:

Use the command ***savedisp*** to save the display parameters of the current workspace, and then open the workspace where the display parameters need to be applied. Enter the command ***applydisp*** to apply the saved display parameters to the current workspace, including the color and line width of the spectrum, the coordinate axis range, integral and peak picking results and so on.

Usage:

applydisp

Related:

savedisp – Save the display parameters of current workspace

aref

Name:

aref – Automatic calibration

Description:

Automatic calibration according to the solvent of the lock field.

Usage:

aref

Related:

rearef – axis calibration

attval

Name:

attval – Calculate the relationship between power and pulse width

Syntax:

attval (power, pw90)

Description:

Calculates the pulse width and B1 field at every transmitter power. The unit of the power is dB, pw90 is the pulse width, the unit is μs.

Usage:

attval(58, 7)

Related:

None

attvalb

Name:

attvalb – Calculate the power and pulse width corresponding to a specific b1

Syntax:

attvalb(power, pw90,b1)

Description:

Given the known power and the corresponding 90 degree pulse width, calculate the power and pulse width corresponding to a specific b1. The power unit is dB, pw90 is pulse widths in µs.

Usage:

attvale(58, 7, 5000)

Related:

attval – Calculate the relationship between power and pulse width

attvale – Calculate the power corresponding to a specific pulse width exactly

attvale

Name:

attvale – Calculate the power corresponding to a specific pulse width exactly

Syntax:

attvale(power, pw90, pw90_2)

Description:

Given the known power and the corresponding 90 degree pulse width, the exact power corresponding to a certain pulse width is accurately calculated with an accuracy of 0.01 dB. The power unit is dB, pw90 and pw90_2 are pulse widths in µs.

Usage:

attvale(58, 7, 36)

Related:

attval – Calculate the relationship between power and pulse width

bye

Name:

bye – Disconnect to EMC

Description:

Disconnect from EMC. You need to enter this command before restarting the software or hardware.

Usage:

bye

Related:

hi – Connect to EMC

dc

Name:

dc – drift correction

Description:

Spectral drift correction. A type of baseline correction that automatically calculates parameters for zero-order polynomial automatic baseline correction of the spectrum.

Usage:

dc

Related:

abs – Automatic baseline correction

dcp

Name:

dcp – Drift correction for partial spectrum

Description:

Drift correction for partial spectrum, that is, zero-order polynomial automatic baseline correction for the partial spectrum. Calculate parameters automatically, and perform baseline correction on the spectrum within the display range of the current work area.

Usage:

dcp

Related:

dc – Drift correction for full spectrum

abs – Automatic baseline correction

deptproc

Name:

deptproc – DEPT spectrum processing

Description:

The DEPT spectrum is automatically edited and the following four sub-spectrums CH3, CH2, CH and CH3+CH2+CH are displayed respectively.

Usage:

deptproc

Related:

None

dsn

Name:

dsn – Display signal-to-noise

Description:

Enter this command and enter the signal-to-noise ratio calculation mode. You can drag or manually edit the signal range, noise range and noise width. Measure the signal to noise ratio within the current spectrum display range. Calculated as follows:

$$S/N = \frac{\text{maximum value}}{2 * \text{noise value}}$$

The maximum value is the maximum value within the current spectrum display range; the noise value is the noise value with a width of 200 Hz within the current spectral display range.

Return value:

The signal to noise ratio within the current spectral range.

Usage:

dsn

Related:

dsnmax – Display maximum signal-to-noise

dsnmax

Name:

dsnmax – Display maximum signal-to-noise

Syntax:

dsnmax(noise_region)

Description:

Calculate the maximum signal-to-noise ratio in the current spectrum display range and output it to the window display. The calculation formula is consistent with the calculation formula in the dsn command. In this command you need to customize the range of noise width.

Read the spectral data of the noise_region width from the leftmost side of the current spectral display range to the right to calculate the mean square error as the noise value, set the noise_region width to the sliding window width, move from left to right according to the sliding window method, and calculate each sliding window. The noise value of the spectral data until the sliding window slides to the far right of the spectrum. The smallest of these noise values is selected as the noise value of the currently displayed spectrum. Noise_region: The calculation range of the noise value, the value range is 0 < noise_region < the current display spectral width range. The dsnmax command is equivalent to dsnmax(200).

Usage:

dsnmax(1000) or dsnmax 1000

Related:

dsn – Display signal-to-noise

eject

Name:

eject – Eject the sample from the magnet

Description:

The command ***eject*** ejects the sample from the magnet. It switches on the air flow and keeps it on until it is explicitly switched off, for example with ***inject***.

Usage:

eject

Related:

inject – Inject the sample into the magnet

esign

Name:

esign – Electronic signature

Description:

Comment on the data in the current workspace.

Usage:

esign

Related:

None

export1DAarray

Name:

export1DArray – Export a piece of data from a 1D array data

Description:

Export one piece of data in the one-dimensional array data to the same directory in the current array data, and automatically name it as "current data name_export data number". The number of the exported data is the value filled in the dialog box, which is consistent with the number below the array data. .

Usage:

export1DArray

Related:

None

ft

Name:

ft – Fourier transform

Description:

The FID is Fourier transformed, and the acquired time domain data (FID) is converted into frequency domain data (spectral data).

Usage:

ft

Related:

si – size of spectrum

si1– size of spectrum for indirect dimension

fcor – weighting factor for first FID point

fcor1 – weighting factor for first FID point of indirect dimension

sw – spectral width

sw1 ~ sw3 – spectral width of indirect dimension

wft – Window function & Fourier transform

ftabs

Name:

ftabs – Fourier transform & Abs

Description:

Perform Fourier transform to the FID using the parameters currently set on the interface, and display the spectrum in absolute value.

Usage:

ftabs

Related:

ft – Fourier transform

wftabs – Window function, Fourier transform & Abs

ftf1

Name:

ftf1 – F1 Fourier transform

Description:

Fourier transform is performed on the F1 dimension in the two-dimensional FID using the parameters currently set on the interface.

Usage:

ftf1

Related:

ft – Fourier transform

wftf1– Window function & Fourier transform for F1

ftf2

Name:

ftf2 – F2 Fourier transform

Description:

Fourier transform is performed on the F2 dimension in the two-dimensional FID using the parameters currently set on the interface.

Usage:

ftf2

Related:

ft – Fourier transform

wftf2– Window function & Fourier transform for F2

ftpwr

Name:

ftpwr – Fourier transform & Pwr

Description:

Perform Fourier transform to the FID using the parameters currently set on the interface, and display the power spectrum.

Usage:

ftpwr

Related:

ft – Fourier transform

wftpwr – Window function, Fourier transform & Pwr

ga

Name:

ga – Perform an acquisition and Window function, Fourier transform & Auto phase correction

Description:

The command ***ga*** is similar to the command ***go***, except that at the end of the experiment, the FID is automatically windowed and Fourier transformed and automatically phase correction, and then the spectrum is generated.

Usage:

ga

Related:

go – Perform an acquisition

gs – Iterative parameter optimization during acquisition

getprobe

Name:

getprobe – Get probe parameters

Description:

The command ***getprobe*** reads the probe dependent parameters and copies them to the corresponding acquisition parameters.

Usage:

getprobe

Related:

None

go

Name:

go – Perform an acquisition

Description:

The command ***go*** starts an acquisition on the current workspace. If the current workspace has data, you can overwrite the data.

Usage:

go

Related:

ga – Perform an acquisition and Window function, Fourier transform & Auto phase correction

gs – Iterative parameter optimization during acquisition

goon

Name:

goon – Continue to acquire

Description:

Continue to acquire data. After type the command ***aa*** or ***halt*** to stop sampling, enter the command ***goon*** to continue sampling on the basis of the previously collected data.

Usage:

goon

Related:

go – Perform an acquisition

ga – Perform an acquisition and Window function, Fourier transform & Auto phase correction

gs – Iterative parameter optimization during acquisition

gmapshim

Name:

gmapshim – Make 1D field map and shim

Description:

Automatically optimize parameters to create a 1D field map and shimming, then do not perform an automatic lock.

Usage:

gmapshim

Related:

gshim – Shim with default 1D field map

gs

Name:

gs – Iterative parameter optimization during acquisition

Description:

Open the Optimize Parameters panel and start loop sampling. This command is similar to the command ***go***, except that the optimized parameters are automatically resampled after each experiment.

Usage:

gs

Related:

go – Perform an acquisition

ga – Perform an acquisition and Window function, Fourier transform & Auto phase correction

gsedit

Name:

gsedit – Edit parameters of iterative acquisition

Description:

Open the Optimize Parameters panel to edit the loop sampling parameters.

Usage:

gsedit

Related:

gs – Iterative parameter optimization during acquisition

gshim

Name:

gshim – Shim with default 1D field map

Description:

Automatically optimize parameters to create a 1D field map and shimming, then do not perform an automatic lock.

Usage:

gshim

Related:

gmapshim – Make 1D field map and shim

halt

Name:

halt – Pause sampling

Description:

Pause sampling. Enter the command ***halt*** in the sampling state. If the FID has been collected, data processing, data conversion and upload will be automatically performed according to the software configuration after the experiment is stopped. When ***halt*** is typed in the dummyscan stage, that is, FID hasn't be collected, subsequent operations such as data processing will not be performed after the experiment is stopped.

Usage:

halt

Related:

aa – Abort acquisition

goon – Continue to acquire

hi

Name:

hi – Connect to EMC

Description:

Connect to EMC. The status of the connection is displayed in the system log panel. If the connection is unsuccessful, you need to check whether the network cable, interface is normal, IP address and port are set correctly.

Usage:

hi

Related:

bye – Disconnect to EMC

initasc

Name:

initasc – Initialize the auto sample changer

Description:

Initialize the auto sample changer. Generally, the initialization operation is automatically performed when the software or the auto sample changer is restarted, and the initialization command is required when the software prompts initialization after the failure.

Usage:

initasc

Related:

None

inject

Name:

inject – Inject the sample into the magnet

Description:

The command ***inject*** injects the sample into the magnet. This command is used when the magnet air flow is on and the sample is floating on top of it. ***inject*** gradually reduces the air flow to zero so that the sample is lowered into the magnet.

Usage:

inject

Related:

eject – Eject the sample from the magnet

lsh

Name:

lsh – Load a set of shim values

Description:

Load a set of shim values. This command can be used by any user. When the current field is not good, use this command to load the better field value saved by the administrator.

Usage:

lsh

Related:

ssh – Save a set of shim values

mnova

Name:

mnova – Open current workspace data in MestReNova

Description:

The current workspace data is opened in the data processing software MestReNova for subsequent related processing.

Usage:

mnova

Related:

None

newexp

Name:

newexp – Create Experiment

Description:

Create a new experiment with the same function as "New Experiment" in the "Toolbar".

Usage:

newexp

Related:

None

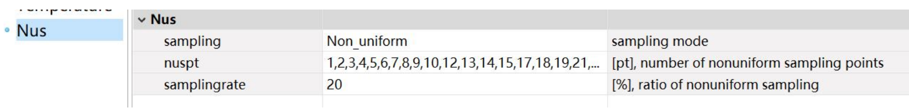
nus

Name:

nus – Add parameters for non-uniform sampling

Description:

Type the command ***nus***, and NUS related parameters will be automatically added in the current active workspace, as shown below.



Usage:

nus

Related:

None

parray

Name:

parray – Add array parameters

Description:

Set the array parameters. After entering the command in the command line, a dialog box will pop up. Enter the parameter name, initial value, step value and array length in the dialog box.

Usage:

parray

Related:

pps (int) – Auto peak picking by threshold

pp

Name:

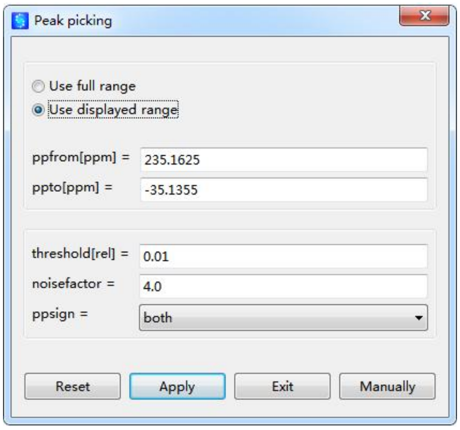
pp – Open the peak picking dialog

Description:

Open the peak picking dialog and set related parameters.

Usage:

Type the command ***pp*** to open the peak-picking dialog, as shown in the figure below.



Select “Use full range”, “ppfrom” and “ppto” will be set to the full range of the current spectrum. Select “Use displayed range ”, “ppfrom” and “ppto” will be set to the displayed range of the current spectrum. The user can also enter the value of “ppfrom” and “ppto” manually.

The product of “threshold” and the strongest peak is stored as the first threshold. The product of “noisefactor” and the noise level is stored as the second threshold. The larger of the two threshold values, will be used as the final peak threshold.

The value of “ppsign” has three choices: both, positive and negative. Respectively represent: pick both of the positive and negative peaks, pick the positive peaks only, pick the negative peaks only.

Click on **Reset** to reset the values in this dialog to the workspace active parameters. Click on **Apply** to pick peaks with the values in this dialog. Click on **Exit** to close this dialog. Click on **Manually** to enter the manual peak-picking mode.

Related:

ppa – Auto peak picking on full spectrum

pps – Auto peak picking

ppa

Name:

ppa – Auto peak picking on full spectrum

Description:

The threshold is automatically calculated according to the algorithm, and the peak is selected according to the threshold on full spectrum, and the chemical shift of the peak and the corresponding amplitude are written into the peak window of the workspace, and the peak peaking result can also be derived.

Usage:

ppa

Related:

pps – Auto peak picking

pps

Name:

pps – Auto peak picking

Description:

The threshold is automatically calculated according to the algorithm, and the peak is selected according to the threshold in the current display range, and the chemical shift of the peak and the corresponding amplitude are written into the peak window of the workspace, and the peak peaking result can also be derived.

Usage:

pps

Related:

ppa – Auto peak picking on full spectrum

pps (int) – Auto peak picking by threshold

pps(int)

Name:

pps (int) – Auto peak picking by threshold

Description:

Pick peaks in the current spectral display range based on the threshold written after pps, the chemical shift of the peak and the corresponding amplitude are written into the peak window of the workspace, and the peak peaking result can also be derived.

Usage:

pps(100000) or pps 100000

Related:

pps – Auto peak picking

rearef

Name:

rearef – axis calibration

Description:

Enter the command ***rearef*** on the command line, pop up the solvent selection box, select the lock solvent solvent Sol Solvent and the real solvent real Solvent, click the **OK** button, then the solvent information in the basic information column of the Acquparams parameter will be automatically modified and re-execute the calibration operation according to the current solvent.

Usage:

rearef

Related:

aref – Automatic calibration

res

Name:

res – Display line width and digital resolution

Description:

Calculate the line width of the highest peaks of 50%, 0.55%, and 0.11% of the highest peak in the current spectral display range and the digital resolution of the current spectrum.

Usage:

res

Related:

None

reset

Name:

reset – Reset EMC

Description:

Reset the EMC.

Usage:

reset

Related:

restart – Restart console

shutdown – Shut down EMC

restart

Name:

restart – Restart console

Description:

Restart the console.

Usage:

restart

Related:

reset – Reset EMC

shutdown – Shut down EMC

rtshim

Name:

rtshim – real-time shim mode

Description:

Real-time shimming mode, in which the Acqu panel displays the FID area or spectrum linearity in real time during the refresh process.

Usage:

rtshim

Related:

None

runningexp

Name:

runningexp – activate or open the running experiment

Description:

Activate or open the running experiment in workspace. This command is equivalent to double-clicking the icon Scan in the software status bar.

Usage:

runningexp

Related:

None

savedisp

Name:

savedisp – Save the display parameters of current workspace

Description:

This command is used in conjunction with ***applydisp***. Use the command ***savedisp*** to save the display parameters of the current workspace, and then open the workspace where the display parameters need to be applied, and enter the command ***applydisp*** to apply the saved display parameters to the current workspace, including the color and line width of the spectrum, the coordinate axis range, integral and peak picking results and so on.

Usage:

savedisp

Related:

applydisp – Apply display parameters to the current workspace

selsolvent

Name:

selsolvent – Select solvent

Description:

Open the solvent selection window and re-select the solvent. If the solvent selection is incorrect when creating a new experiment, you can change it here.

Usage:

selsolvent

Related:

None

showfid

Name:

showfid – Show FID

Description:

Display the FID of the current data.

Usage:

showfid

Related:

showspec – Show spectrum

showspec

Name:

showspec – Show spectrum

Description:

Display the spectrum of the current data.

Usage:

showspec

Related:

showfid – Show FID

shutdown

Name:

shutdown – Shut down EMC

Description:

Shut down EMC.

Usage:

shutdown

Related:

reset – Reset EMC

restart – Restart console

smartmapshim

Name:

smartmapshim – Make 1D field map and shim + autolock

Description:

Automatically optimize parameters to create a 1D field map and shimming, then perform an automatic lock.

Usage:

smartmapshim

Related:

smartshim – Shim with default 1D field map + autolock

smartmapshim3d

Name:

smartmapshim3d – Make 3D field map and shim

Description:

Automatically optimize parameters to create a 3D field map and shimming.

Usage:

smartmapshim3d

Related:

smartshim3d – Shim with default 3D field map

smartmapshimaa

Name:

smartmapshimaa – Make 1D field map and shim + tune z1-x1-y1-zx-zy-z1 + autolock

Description:

Automatically optimize the parameters to create a 1D field map and shim, then search shim for z1-x1-y1-zx-zy-z1 and perform an automatic lock.

Usage:

smartmapshimaa

Related:

smartmapshimba – Tune z1-x1-y1-zx-zy-z1 + make 1D field map and shim +autolock

smartshimaa – Shim with default 1D field map + tune z1-x1-y1-zx-zy + autolock

smartmapshimaxyz

Name:

smartmapshimaxyz –Make 1D field map and shim + tune z1-x1-y1 + autolock

Description:

Automatically optimize the parameters to create a 1D field map and shim, then search shim for z1-x1-y1 and perform an automatic lock.

Usage:

smartmapshimaxyz

Related:

smartmapshimbxyz – Tune z1-x1-y1 + make 1D field map and shim +autolock

smartshimaxyz – Shim with default 1D field map + tune z1-x1-y1 + autolock

smartmapshimaz

Name:

smartmapshimaz – Make 1D field map and shim + tune z1 + autolock

Description:

Automatically optimize the parameters to create a 1D field map and shim, then search shim for z1 and perform an automatic lock.

Usage:

smartmapshimaz

Related:

smartmapshimbz – Tune z1 + make 1D field map and shim +autolock

smartshimaz – Shim with default 1D field map + tune z1 + autolock

smartmapshimba

Name:

smartmapshimba – Tune z1-x1-y1-zx-zy-z1 + make 1D field map and shim +autolock

Description:

Search shim for z1-x1-y1-zx-zy-z1 first, then automatically optimize the parameters to create a 1D field map and shim, and perform an automatic lock.

Usage:

smartmapshimba

Related:

smartmapshimaa – Make 1D field map and shim + tune z1-x1-y1-zx-zy-z1 + autolock

smartshimba – Tune z1-x1-y1-zx-zy + shim with default 1D field map +autolock

smartmapshimbxyz

Name:

smartmapshimbxyz – Tune z1-x1-y1 + make 1D field map and shim +autolock

Description:

Search shim for z1-x1-y1 first, then automatically optimize the parameters to create a

1D field map and shim, and perform an automatic lock.

Usage:

smartmapshimbxyz

Related:

smartmapshimaxyz –Make 1D field map and shim + tune z1-x1-y1 + autolock

smartshimbxyz – Tune z1-x1-y1 + shim with default 1D field map +autolock

smartmapshimbz

Name:

smartmapshimbz – Tune z1 + make 1D field map and shim +autolock

Description:

Search shim for z1 first, then automatically optimize the parameters to create a 1D field map and shim, and perform an automatic lock.

Usage:

smartmapshimbz

Related:

smartmapshimaz – Make 1D field map and shim + tune z1 + autolock

smartshimbz – Tune z1 + shim with default 1D field map +autolock

smartshim

Name:

smartshim – Shim with default 1D field map + autolock

Description:

Use the 1D default field map to shimming and then automatically lock the field.

Usage:

smartshim

Related:

smartmapshim – Make 1D field map and shim + autolock

smartshim3d

Name:

smartshim3d – Shim with default 3D field map

Description:

Use the 3D default field map to shimming.

Usage:

smartshim3d

Related:

smartmapshim3d – Make 3D field map and shim

smartshimaa

Name:

smartshimaa – Shim with default 1D field map + tune z1-x1-y1-zx-zy + autolock

Description:

Use the 1D default field map to shimming and then search shim for z1-x1-y1-zx-zy-z1 and perform an automatic lock.

Usage:

smartshimaa

Related:

smartshimba – Tune z1-x1-y1-zx-zy + shim with default 1D field map +autolock

smartmapshimaa – Make 1D field map and shim + tune z1-x1-y1-zx-zy-z1 + autolock

smartshimaxyz

Name:

smartshimaxyz – Shim with default 1D field map + tune z1-x1-y1 + autolock

Description:

Use the 1D default field map to shimming and then search shim for z1-x1-y1 and perform an automatic lock.

Usage:

smartshimaxyz

Related:

smartshimbxyz – Tune z1-x1-y1 + shim with default 1D field map +autolock

smartmapshimaxyz –Make 1D field map and shim + tune z1-x1-y1 + autolock

smartshimaz

Name:

smartshimaz – Shim with default 1D field map + tune z1 + autolock

Description:

Use the 1D default field map to shimming and then search shim for z1 and perform an automatic lock.

Usage:

smartshimaz

Related:

smartshimbz – Tune z1 + shim with default 1D field map +autolock

smartmapshimaz – Make 1D field map and shim + tune z1 + autolock

smartshimba

Name:

smartshimba – Tune z1-x1-y1-zx-zy + shim with default 1D field map +autolock

Description:

Search shim for z1-x1-y1-zx-zy-z1 first, then use the 1D default field map to shimming, and perform an automatic lock.

Usage:

smartshimba

Related:

smartshimaa – Shim with default 1D field map + tune z1-x1-y1-zx-zy + autolock

smartmapshimba – Tune z1-x1-y1-zx-zy-z1 + make 1D field map and shim +autolock

smartshimbxyz

Name:

smartshimbxyz – Tune z1-x1-y1 + shim with default 1D field map +autolock

Description:

Search shim for z1-x1-y1 first, then use the 1D default field map to shimming, and perform an automatic lock.

Usage:

smartshimbxyz

Related:

smartshimaxyz – Shim with default 1D field map + tune z1-x1-y1 + autolock

smartmapshimbxyz – Tune z1-x1-y1 + make 1D field map and shim +autolock

smartshimbz

Name:

smartshimbz – Tune z1 + shim with default 1D field map +autolock

Description:

Search shim for z1 first, then use the 1D default field map to shimming, and perform an automatic lock.

Usage:

smartshimbz

Related:

smartshimaz – Shim with default 1D field map + tune z1 + autolock

smartmapshimbz – Tune z1 + make 1D field map and shim +autolock

ssh

Name:

ssh – Save a set of shim values

Description:

Save a set of shim values, used in conjunction with ***lsh***. Only the administrator has permission to use this command, will directly save the current current value of all coils except z0 to the default shim value file. Normally, the administrator can use this command when the current field is good.

Usage:

ssh

Related:

lsh – Load a set of shim values

stm

Name:

stm – Smart tuning and matching

Description:

The command ***stm*** performs tuning and matching of an ATM probe. The nuclei used in the workspace will be automatically tuned and matched .

Usage:

stm

Related:

None

stopalock

Name:

stopalock – Stop automatic lock

Description:

During the automatic lock, enter this command to stop the lock operation. You can also enter the command ***aaa*** directly.

Usage:

stopalock

Related:

aaa – Abort all acquisitions

suspendoff

Name:

suspendoff – Close the magnet suspension gas path

Description:

When the magnet is in suspension, type this command to allow the magnet to float down.

Usage:

suspendoff

Related:

suspendon – Open the magnet suspension airflow

suspendon

Name:

suspendon – Open the magnet suspension airflow

Description:

If the magnet has air-cushion leg support, after opening the magnet suspension air path, enter this command to allow the magnet to float.

Usage:

suspendon

Related:

suspendoff – Close the magnet suspension gas path

sym

Name:

sym – Symmetry

Description:

Synthesize the spectrum along the diagonal. The parameters need to be adjusted before symmetry: size of spectrum for F2 dimension is the same as size of spectrum for F2 dimension, that is, si is equal to si1.

Usage:

sym

Related:

symj – Symmetry for J spectrum

symj

Name:

symj – Symmetry for J spectrum

Description:

The spectroscopy is performed along the horizontal central axis.

Usage:

symj

Related:

sym – Symmetry

syscf

Name:

syscf– Configure the spectrometer

Description:

The command ***syscf*** allows you to configure the spectrometer. It should be executed after installing a new version of SpinStudioJ or if your spectrometer hardware has changed. Only the administrator account can configure the spectrometer

Usage:

syscf

Related:

None

tilt

Name:

tilt – Tilt automatically along the line

Description:

Tilt automatically along the line.

Usage:

tilt

Related:

None

time

Name:

time – Display experiment time

Description:

Show the time required for the experiment in the current workspace.

Usage:

time

Related:

None

wft

Name:

wft – Window function & Fourier transform

Description:

Apply the window function to the FID using the parameters currently set on the interface, and then perform Fourier transform.

Usage:

wft

Related:

ft – Fourier transform

wdw – type of window function

wftabs

Name:

wftabs – Window function, Fourier transform & Abs

Description:

Apply the window function to the FID using the parameters currently set on the interface, and then perform Fourier transform and display the spectrum in absolute value.

Usage:

wftabs

Related:

wft – Window function & Fourier transform

ftabs – Fourier transform & Abs

wdw – type of window function

wftf1

Name:

wftf1– Window function & Fourier transform for F1

Description:

Window function and Fourier transform are performed on the F1 dimension in the two-dimensional FID using the parameters currently set on the interface.

Usage:

wftf1

Related:

ftf1 – F1 Fourier transform

wft – Window function & Fourier transform

wdw – type of window function

wftf2

Name:

wftf2– Window function & Fourier transform for F2

Description:

Window function and Fourier transform are performed on the F2 dimension in the two-dimensional FID using the parameters currently set on the interface.

Usage:

wftf2

Related:

ftf2 – F2 Fourier transform

wft – Window function & Fourier transform

wdw – type of window function

wftpwr

Name:

wftpwr – Window function, Fourier transform & Pwr

Description:

Apply the window function to the FID using the parameters currently set on the interface, and then perform Fourier transform and display the power spectrum.

Usage:

wftpwr

Related:

ftpwr – Fourier transform & Pwr

wft – Window function & Fourier transform

wdw – type of window function

3. Parameter

acqfrq

Name:

acqfrq – acquisition frequency

Data type: real

Functional group: Acquparams

Description:

Displays the acquisition frequency of the current experiment.

Value:

100~2500000. The default is 6000, in Hertz (Hz).

Related:

None

acqmode

Name:

acqmode – acquisition mode

Data type: string

Functional group: Acquparams

Description:

Shows the acquisition mode of the direct dimension of the current experiment.

Value:

dqd

Related:

None

acqmode1 ~ acqmode3

Name:

acqmode1 ~ acqmode3 – acquisition mode of indirect dimension

Data type: string

Functional group: Acquparams

Description:

Shows the acquisition mode of the indirect dimension of the current experiment.

Value:

tppi, echo-antiecho, qf, states, states-tppi, etc.

Related:

None

acqtime

Name:

acqtime – acquisition time

Data type: real

Functional group: Acquparams

Description:

The length of time for acquiring the FID signal. The acquisition rate is determined by the spectral width swhz. The total number of sampling points is np=swhz*acqtime. If the acqtime is larger, the longer the FID signal is acquired, the better the signal-to-noise ratio will be, but it will waste a lot of time and increase the intensity of the noise signal. If the acqtime is too small, the wingle phenomenon will occur next to the peak. Therefore, it is necessary to continuously improve the acqtime value according to the experiment.

Value:

0 ~ 2500, can not take zero value, the maximum value is limited by the size of FID (np), the default value is 1.0. Unit: second (s).

Related:

np – size of FID

swhz – spectral width

acqtime1 ~ acqtime3

Name:

acqtime1 ~ acqtime3 – acquisition time of indirect dimension

Data type: real

Functional group: Acquparams

Description:

The length of time for acquiring the FID signal. The acquisition rate is determined by the spectral width swhz. The total number of sampling points is np=swhz*acqtime. If the acqtime is larger, the longer the FID signal is acquired, the better the signal-to-noise ratio will be, but it will waste a lot of time and increase the intensity of the noise signal. If the acqtime is too small, the wingle phenomenon will occur next to the peak. Therefore, it is necessary to continuously improve the acqtime value according to the experiment.

Value:

0 ~ 2500, can not take zero value, the maximum value is limited by the size of FID (np), the default value is 1.0. Unit: second (s).

Related:

np1 ~ np3 – size of FID for indirect dimension

swhz1 ~ swhz3 – spectral width of indirect dimension

array

Name:

array – parameter(s) to be optimized

Data type: string

Functional group: Acquparams

Description:

Record array experiment parameter names and array combination order. For example, the relaxation delay d1 is an array array, that is, d1=[1, 4, 8], which means that in one experiment, there are three sets of sub-experiments, the first sub-experiment d1=1s, the second sub-experiment d1=4s, the third sub-experiment d1 = 8s. Record the parameter name d1 in the array, which is array="d1", so array is a string parameter. If there are multiple parameter arrays, for example, except for d1=[1,4,8], and pw=[5,10,15], then array is represented as array="d1, pw", meaning When d1=1, pw is taken 5, 10, and 15 for 3 sub-experiments; when d1=4, pw is taken 5, 10, and 15; when d1=8, pw is taken 5, 10, and 15, for a total of 9 sub-experiments. If you modify array to array="pw, d1", then pw=5, d1 takes 1, 4, and 8 to do 3 experiments; then pw=10, d1 takes 1, 4, 8, and pw=15, d1 takes 1, 3, and 8, a total of 9 sub-experiments. If you modify array to array="(d1, pw)", it means take d1=1, pw=5 to do a set of sub-experiments, take d1=4, pw=10 to do the second group of sub-experiments, take d1=8, pw=15 to do the third group of sub-experiments, a total of 3 sub-experiments. When using the form array="(parameter 1, parameter 2,...)", the number of elements of all array parameters needs to be the same.

Only the parameters of the function grouping "Acquparams", and the array is allowed, its parameter name can be placed in the array.

Value:

The parameters of the array that belongs to the Acquparams group.

Related:

arraymode – array mode

arraymode

Name:

arraymode – array mode

Data type: integer

Functional group: Acquparams

Description:

The parameter arraymode takes 0 to indicate that when ns>0 repeats the array parameters first, and then switches the currently selected array parameters. Take 1 to indicate that when ns>0 first switches the currently selected array parameters, and then repeats the array parameters.

E.g:

d1=[1,2]; p1=[3,4]; array='d1,p1'; ns=2;

a.If arraymode=0, then 8 sub-experiments are

d1	p1
1	3
1	3
1	4
1	4
2	3
2	3
2	4
2	4

b.If arraymode=1, then 8 sub-experiments are

d1	p1
1	3
1	4
2	3
2	4
1	3
1	4
2	3

2 4

Value:

0 or 1, the default is 0.

Related:

array – parameter(s) to be optimized

ns – number of scans

birddelay

Name:

birddelay – bird delay

Data type: real

Functional group: Acquparams

Description:

The waiting time after the BIRD sandwich pulse block. Adjusts the birddelay until the FID is minimum, thereby achieving the purpose of suppressing strong signals of protons connected to ^{12}C or ^{14}N.

Value:

0 ~ 2147483647. The default value is 1.0. Unit: second (s).

Related:

None

ci

Name:

ci – current number of scans for indirect dimension

Data type: integer

Functional group: Acquparams

Description:

Current number of scans for indirect dimension.

Value:

0 ~ 262144. The default value is 0.

Related:

None

coffnum

Name:

coffnum – number of coefficients

Data type: integer

Functional group: Procparams

Description:

The number of linear prediction coefficients.

Value:

2 ~ 32. The default is 24.

Related:

None

coffnum1

Name:

coffnum1 – number of coefficients for indirect dimension

Data type: integer

Functional group: Procparams

Description:

The number of linear prediction coefficients for indirect dimension.

Value:

2 ~ 32. The default is 24.

Related:

None

console

Name:

console – console information

Data type: string

Functional group: Acquparams

Description:

Displays console information for the current experiment.

Value:

The default is Quantum-I.

Related:

None

cs

Name:

cs – current number of scans

Data type: integer

Functional group: Acquparams

Description:

The current number of scans for the experiment.

Value:

0~2147483647, the default is 0.

Related:

None

d0

Name:

d0 – initial evolution time for indirect dimension

Data type: real

Functional group: Acquparams

Description:

Initial evolution time for indirect dimension.

Value:

0~2147483647, the default value is 0.000010. Unit: second (s).

Related:

None

d1 ~ d20

Name:

d1 ~ d20 – delay

Data type: real

Functional group: Acquparams

Description:

The delay time of each delay element in the pulse sequence.

Value:

0 ~ 2147483647, the default is 1.0. Unit: second (s).

Related:

None

deadtime

Name:

deadtime – dead time

Data type: real

Functional group: Acquparams

Description:

The time interval between the end of the last pulse of the transmitter and the start of reception by the receiver, ie the dead time.

Value:

0 ~ 10^6, the default is 30.0. Unit: microsecond (μs).

Related:

None

decon ~ decon3

Name:

decon ~ decon3–decoupling switch on/off

Data type: string

Functional group: Acquparams

Description:

The state of the decoupling modulation switch is determined at different times of a pulse sequence. The pulse sequence may require one, two, three or more decoupling states. You can get multiple decoupling states of the f1 ~ f4 channels by setting the value of decon ~ decon3, such as decon1="yny", decon2="nny".

Value:

"n": The decoupling modulation of this state of the pulse sequence is turned off.

"y": The decoupling modulation of this state of the pulse sequence is turned on.

The default value is "nnn".

Related:

dectype ~ dectype3 – decoupling mode

decpw ~ decpw3

Name:

decpw ~ decpw3 – 90° pulse width for decoupling sequence

Data type: real

Functional group: Acquparams

Description:

decpw ~ decpw3 are the 90° pulse width for decoupling sequence of the f1~f4 channels, respectively.

Value:

0 ~ 2147483647. The default value is 40. Unit: microsecond (μs).

Related:

decplvl ~ decplvl3 – power level for decoupling

decplvl ~ decplvl3

Name:

decplvl ~ decplvl3 – power level for decoupling

Data type: real

Functional group: Acquparams

Description:

decplvl ~ decplvl3 are the power level for decoupling of the f1~f4 channels, respectively.

Value:

-32 ~ 63. The default value is 40. Unit: dB.

Related:

decpw ~ decpw3 – 90° pulse width for decoupling sequence

dectype ~ dectype3

Name:

dectype ~ dectype3 – decoupling mode

Data type: string

Functional group: Acquparams

Description:

The modes used for the decoupling modulation of the f1 ~ f4 channels, respectively, are what composite pulses are used to decouple.

Value:

'c'	continuous wave
'w'	waltz16(default value)
'W'	waltz8
'g'	garp
'm'	mlev16
'M'	mlev17
'l'	clmlev16
't'	tppm2
'x'	xy32
'a'	ATstud
'A'	ATwurst

The default is "www".

Related:

decon ~ decon3–decoupling switch on/off

diffdelay

Name:

diffdelay – diffusion time

Data type: real

Functional group: Acquparams

Description:

Diffusion time, also known as diffusion delay.

Value:

0 ~ 2147483647. The default value is 0.020. Unit: second (s).

Related:

None

dimension

Name:

dimension – number of experiment dimension

Data type: integer

Functional group: Acquparams

Description:

Displays the dimensions of the pulse sequence used in the current experiment.

Value:

1~ 3. The default value is 1.

Related:

None

dummyscan

Name:

dummyscan – number of dummy scans

Data type: real

Functional group: Acquparams

Description:

Set the number of times the pulse sequence is executed, acquired but not saved. When dummyscan is positive, the dummy scan is only used in the first ns increment, and when dummyscan is negative, the dummy scan is used for each ns increment.

Value:

0 ~ 10^6. The default value is 1.

Related:

ns – number of scans

echotime

Name:

echotime – echo time

Data type: real

Functional group: Acquparams

Description:

Echo time.

Value:

0 ~ 2147483647. The default value is 0.0002. Unit: second (s).

Related:

None

ecdelay

Name:

ecdelay – eddy current delay

Data type: real

Functional group: Acquparams

Description:

Eddy current delay,, also called eddy current delay.

Value:

0 ~ 2147483647. The default value is 0.005. Unit: second (s).

Related:

None

effend

Name:

effend – end of effective point (ratio)

Data type: real

Functional group: Procparams

Description:

The proportional value of the end point involved in the prediction.

Value:

0 ~ 1. The default value is 1, must ensure that “effstart < effend” is met.

Related:

effstart – start of effective point (ratio)

effend1

Name:

effend1 – end of effective point (ratio) for indirect dimension

Data type: real

Functional group: Procparams

Description:

The proportional value of the end point in the indirect dimension involved in the prediction.

Value:

0 ~ 1. The default value is 1, must ensure that “effstart1 < effend1” is met.

Related:

effstart1 – start of effective point (ratio) for indirect dimension

effstart

Name:

effstart – start of effective point (ratio)

Data type: real

Functional group: Procparams

Description:

The proportional value of the start point involved in the prediction.

Value:

0 ~ 1. The default value is 0, must ensure that "effstart < effend" is met.

Related:

effend – end of effective point (ratio)

effstart1

Name:

effstart1 – start of effective point (ratio) for indirect dimension

Data type: real

Functional group: Procparams

Description:

The proportional value of the start point in the indirect dimension involved in the prediction.

Value:

0 ~ 1. The default value is 0, must ensure that "effstart1 < effend1" is met.

Related:

effend1 – end of effective point (ratio) for indirect dimension

expdelay

Name:

expdelay – experiment delay

Data type: real

Functional group: Procparams

Description:

Waiting time before experiment.

Value:

0 ~ 2147483647, the default is 1.0. Unit: second (s).

Related:

None

fcor

Name:

fcor – weighting factor for first FID point

Data type: real

Functional group: Procparams

Description:

Weighting factor for first FID point before the shift.

Value:

0 ~ 10^5. The default value is 0.5.

Related:

ft – Fourier transform

fcor1

Name:

fcor1 – weighting factor for first FID point of indirect dimension

Data type: real

Functional group: Procparams

Description:

Weighting factor of indirect dimension for first FID point before the shift.

Value:

0 ~10^5. The default value is 0.5.

Related:

ft – Fourier transform

fph

Name:

fph – 1st order correction

Data type: real

Functional group: Procparams

Description:

First order phase correction factor.

Value:

-10^6 ~ 10^6. The default value is 0. Unit: degree (°).

Related:

aph – 1D automatic phase correction

zph – 0th order correction

fph1

Name:

fph1 – 1st order correction for indirect dimension

Data type: real

Functional group: Procparams

Description:

First order phase correction factor for indirect dimension.

Value:

$-10^6 \sim 10^6$. The default value is 0. Unit: degree (°).

Related:

aph – 1D automatic phase correction

zph1 – 0th order correction for indirect dimension

fq ~ fq10

Name:

fq ~ fq10 – pulse frequency offset

Data type: real

Functional group: Acquparams

Description:

Pulse frequency offset.

Value:

$-10^7 \sim 10^7$. The default value is 0. Unit: Hertz (Hz).

Related:

None

frqb ~ frqb3

Name:

frqb ~ frqb3 – basic transmitter frequency

Data type: real

Functional group: Acquparams

Description:

frqb ~ frqb3 correspond to the basic transmitter frequency of the nuclei of the f1~f4 channel, respectively.

Value:

0 ~ 10000. The default is 399.84. Unit: Megahertz (MHz).

Related:

frqo ~ frqo3 – transmitter frequency offset

frqohz ~ frqohz3 – transmitter frequency offset

frqo ~ frqo3

Name:

frqo ~ frqo3 – transmitter frequency offset

Data type: real

Functional group: Acquparams

Description:

frqo ~ frqo3 correspond to the transmitter frequency offset of the nuclei of the f1~f4 channel, respectively.

Value:

-5000000 ~ 5000000. The default value is 0. Unit: ppm.

Related:

frqohz ~ frqohz3 – transmitter frequency offset

frqohz ~ frqohz3

Name:

frqohz ~ frqohz3 – transmitter frequency offset

Data type: real

Functional group: Acquparams

Description:

frqohz ~ frqohz3 correspond to the transmitter frequency offset of the nuclei of the f1~f4 channel, respectively.

Value:

$-2*10^7 \sim 2*10^7$. The default value is 0. Unit: Hertz (Hz).

Related:

frqo ~ frqo3 – transmitter frequency offset

gain ~ gain3

Name:

gain ~ gain3 – receiver gain

Data type: real

Functional group: Acquparams

Description:

Receiver gain.

Value:

0~80. The default value is 64. Unit: dB.

Related:

None

gf

Name:

gf – Gaussian function

Data type: real

Functional group: Procparams

Description:

Gaussian function.

Value:

$-10^6 \sim 10^6$, non-zero value, weighted according to function form $\exp(-\frac{t^2}{gf^2})$, where t is the time corresponding to the current point $t = \frac{i-1}{2*swh}$, which i is the current point index, and swhz is the spectrum width.

The default value is 1.

Related:

wdw – type of window function

gfs – Gaussian shift

swhz – spectral width

gf1

Name:

gf1 – Gaussian function for indirect dimension

Data type: real

Functional group: Procparams

Description:

Gaussian function for indirect dimension.

Value:

$-10^6 \sim 10^6$, non-zero value, weighted according to function form $\exp(-\frac{t^2}{gf^2})$, where t is the time corresponding to the current point $t = \frac{i-1}{2*swh}$, which i is the current point index, and swhz is the spectrum width.

The default value is 1.

Related:

wdw1 – type of window function for indirect dimension

gfs1 – Gaussian shift for indirect dimension

swhz1 ~ swhz3 – spectral width of indirect dimension

gfs

Name:

gfs – Gaussian shift

Data type: real

Functional group: Procparams

Description:

Gaussian shift.

Value:

$-10^6 \sim 10^6$, non-zero value, weighted according to function form $\exp(-\frac{(t-gfs)^2}{gf^2})$, where t is the time corresponding to the current point $t = \frac{i-1}{2*swh}$, which i is the current point index, and swhz is the spectrum width.

The default value is 1.

Related:

gf – Gaussian function

swhz – spectral width

gfs1

Name:

gfs1 – Gaussian shift for indirect dimension

Data type: real

Functional group: Procparams

Description:

Gaussian shift for indirect dimension.

Value:

$-10^6 \sim 10^6$, non-zero value, weighted according to function form $\exp(-\frac{(t-gfs)^2}{gf^2})$, where

t is the time corresponding to the current point $t = \frac{i-1}{2*swh}$, which i is the current point index, and swhz is the spectrum width.

The default value is 1.

Related:

gf1 – Gaussian function for indirect dimension

swhz1 ~ swhz3 – spectral width of indirect dimension

gtime ~ gtime9

Name:

gtime ~ gtime9 – gradient time

Data type: real

Functional group: Acquparams

Description:

Set or display the action time of the gradient in the pulse sequence used in the current experiment.

Value:

0 ~ 2147483647. The default value is 1000. Unit: microsecond (μs).

Related:

None

gshape ~ gshape9

Name:

gshape ~ gshape9 – gradient shape

Data type: string

Functional group: Acquparams

Description:

A parameter of a shape gradient that represents a function of the gradient shape.

Value:

The shape information of the shape gradient is stored in the file, so the value is the file name and the default value is hard.grd.

Related:

None

gstab

Name:

gstab – gradient stable time

Data type: real

Functional group: Acquparams

Description:

Stabilization time after the gradient in the pulse sequence.

Value:

0 ~ 2147483647. The default value is 0.0002. Unit: second (s).

Related:

None

gxlevel ~ gxlevel9

Name:

gxlevel ~ gxlevel9 –amplitude of x gradient

Data type: real

Functional group: Acquparams

Description:

Amplitude of x gradient.

Value:

-100 ~100. The default value is 20. unit: %.

Related:

gylevel ~ gylevel9 – amplitude of y gradient

gzlevel ~ gzlevel9 –amplitude of z gradient

gylevel ~ gylevel9

Name:

gylevel ~ gylevel9 – amplitude of y gradient

Data type: real

Functional group: Acquparams

Description:

Amplitude of y gradient.

Value:

-100 ~100. The default value is 20. unit: %.

Related:

gxlevel ~ gxlevel9 –amplitude of x gradient

gzlevel ~ gzlevel9 –amplitude of z gradient

gzlevel ~ gzlevel9

Name:

gzlevel ~ gzlevel9 –amplitude of z gradient

Data type: real

Functional group: Acquparams

Description:

Amplitude of z gradient.

Value:

-100 ~100. The default value is 20. unit: %.

Related:

gxlevel ~ gxlevel9 –amplitude of x gradient

gylevel ~ gylevel9 – amplitude of y gradient

gradrising

Name:

gradrising – time of gradient rising

Data type: real

Functional group: Acquparams

Description:

Time of gradient rising.

Value:

0 ~ 2147483647. The default value is 300. Unit: microsecond (μs).

Related:

gradfalling – time of gradient falling

gradfalling

Name:

gradfalling – time of gradient falling

Data type: real

Functional group: Acquparams

Description:

Time of gradient falling.

Value:

0 ~ 2147483647. The default value is 300. Unit: microsecond (μs).

Related:

gradrising – time of gradient rising

irtime

Name:

irtime – inverse-recovery time

Data type: real

Functional group: Acquparams

Description:

Inverse-recovery time.

Value:

0 ~ 2147483647. The default value is 0.0625. Unit: second (s).

Related:

None

jch

Name:

jch – coupling constant for CH

Data type: real

Functional group: Acquparams

Description:

The coupling constant for CH.

Value:

0 ~ 2147483647. The default is 145. Unit: Hertz (Hz).

Related:

jchn – long range coupling constant for CH

jchn

Name:

jchn – long range coupling constant for CH

Data type: real

Functional group: Acquparams

Description:

The long range coupling constant for CH.

Value:

0~2147483647. The default is 8. Unit: Hertz (Hz).

Related:

jch – coupling constant for CH

jhh

Name:

jhh – coupling constant for HH

Data type: real

Functional group: Acquparams

Description:

The coupling constant for HH.

Value:

0~2147483647. The default is 6. Unit: Hertz (Hz).

Related:

jhhn – long range coupling constant for HH

jhhn

Name:

jhhn – long range coupling constant for HH

Data type: real

Functional group: Acquparams

Description:

The long range coupling constant for HH.

Value:

0~2147483647. The default is 2. Unit: Hertz (Hz).

Related:

jhh – coupling constant for HH

jxh

Name:

jxh –coupling constant for XH

Data type: real

Functional group: Acquparams

Description:

The coupling constant for XH.

Value:

0~2147483647. The default is 145. Unit: Hertz (Hz).

Related:

jxhn – long range coupling constant for XH

jxhn

Name:

jxhn – long range coupling constant for XH

Data type: real

Functional group: Acquparams

Description:

The long range coupling constant for XH.

Value:

0 ~ 2147483647. The default is 10. Unit: Hertz (Hz).

Related:

jxh –coupling constant for XH

lb

Name:

lb – line broadening

Data type: real

Functional group: Procparams

Description:

Linear broadening weighting factor (exponential weighting factor). Weighting is performed according to the attenuation exponential function $\exp(-t * p * lb)$. In which t is the time $t = \frac{i-1}{2 * swh}$ corresponding to the current point, i is the current point index and swh is the spectral width.

Value:

Positive, the weighted result is enhanced spectral sensitivity (signal-to-noise ratio) and reduced resolution.

Negative, weighted results are reduced spectral sensitivity (signal-to-noise ratio) and enhanced resolution.

The default is 1. Unit: Hertz (Hz).

Related:

None

lb1

Name:

lb1 – line broadening

Data type: real

Functional group: Procparams

Description:

Linear broadening weighting factor (exponential weighting factor). Weighting is performed according to the attenuation exponential function $\exp(-t*p*lb)$. In which t is the time $t=\frac{i-1}{2*swh}$ corresponding to the current point, i is the current point index and swh is the spectral width.

Value:

Positive, the weighted result is enhanced spectral sensitivity (signal-to-noise ratio) and reduced resolution.

Negative, weighted results are reduced spectral sensitivity (signal-to-noise ratio) and enhanced resolution.

The default is 1. Unit: Hertz (Hz).

Related:

None

lockfreq

Name:

lockfreq – transmitter frequency for D nucleus

Data type: real

Functional group: Acquparams

Description:

The D lock frequency displayed on the acquisition parameter interface.

Value:

0 ~ 10000. The default value is 61.38. Unit: Megahertz (MHz).

Related:

lockfrq – lock frequency

lockfrq

Name:

lockfrq – lock frequency

Data type: real

Functional group: Lock

Description:

The lock frequency displayed on the Lock interface.

Value:

0~10^6. The default value is 61.38. Unit: Megahertz (MHz).

Related:

lockfreq – transmitter frequency for D nucleus

lockgain

Name:

lockgain – lock gain

Data type: integer

Functional group: Lock

Description:

The lock gain displayed on the Lock interface.

Value:

0 ~ 45. The default value is 24. Unit: decibel (dB).

Related:

lockpower – lock power

lockphase

Name:

lockphase – lock phase

Data type: real

Functional group: Lock

Description:

The lock phase displayed on the Lock interface.

Value:

0 ~ 359. The default is 154. Unit: degree (°).

Related:

None

lockpoint

Name:

lockpoint – lock point

Data type: integer

Functional group: Lock

Description:

The lock point displayed on the Lock interface.

Value:

The lock horizontal line is displayed when 550 is taken, and the lock horizontal line is not displayed when 5 is taken. The default is 5.

Related:

None

lockpower

Name:

lockpower – lock power

Data type: integer

Functional group: Lock

Description:

The lock power displayed on the Lock interface.

Value:

0 ~ 63. The default value is 18. Unit: decibel (dB).

Related:

lockgain – lock gain

lockon

Name:

lockon – lock field

Data type: integer

Functional group: Lock

Description:

Display the lock status of the Lock interface. The checked state means that the field is locked, otherwise, the field is not locked.

Value:

0 or 1. When 0 is taken, the field is not locked, and when 1 is taken, the field is locked. The default is 0.

Related:

None

lpend

Name:

lpend – end of lp point (ratio)

Data type: real

Functional group: Procparams

Description:

The proportional value of the end point to be predicted.

Value:

0 ~ 2. The default value is 2. When "effstart" and "effend" do not use the default value, the values of "lpstart" and "lpend" must satisfy (lpend - lpstart) ≦ (effend - effstart).

Related:

lpstart – start of lp point (ratio)

lpend1

Name:

lpend1 – end of lp point (ratio) for indirect dimension

Data type: real

Functional group: Procparams

Description:

The proportional value of the end point to be predicted in the indirect dimension.

Value:

0 ~ 2 . The default value is 2. When "effstart1" and "effend1" do not use the default value, the values of "lpstart1" and "lpend1" must satisfy (lpend1 - lpstart1) ≦ (effend1 - effstart1).

Related:

lpstart1 – start of lp point (ratio) for indirect dimension

lpmode

Name:

lpmode – linear prediction mode

Data type: string

Functional group: Procparams

Description:

Linear prediction mode.

Value:

Linear prediction modes include “no”, “backward”, and “forward”, which are used in the Fourier transform. “No” means no linear prediction, “backward” means backward linear prediction, and “forward” means forward linear prediction. The default is “no”.

Related:

coffnum – number of coefficients

effstart – start of effective point (ratio)

effend – end of effective point (ratio)

lpstart – start of lp point (ratio)

lpend – end of lp point (ratio)

lpmode1

Name:

lpmode1 – linear prediction mode for indirect dimension

Data type: string

Functional group: Procparams

Description:

Linear prediction mode for indirect dimension.

Value:

Linear prediction modes include “no”, “backward”, and “forward”, which are used in the Fourier transform. “No” means no linear prediction, “backward” means backward linear prediction, and “forward” means forward linear prediction. The default is “no”.

Related:

coffnum – number of coefficients for indirect dimension effstart – start of effective point (ratio) for indirect dimension

effend – end of effective point (ratio) for indirect dimension

lpstart – start of lp point (ratio) for indirect dimension

lpend – end of lp point (ratio) for indirect dimension

lpstart

Name:

lpstart – start of lp point (ratio)

Data type: real

Functional group: Procparams

Description:

The proportional value of the start point to be predicted.

Value:

0 ~ 1. The default value is 1. When “effstart” and “effend” do not use the default value, the values of “lpstart” and “lpend” must satisfy (lpend - lpstart) ≦ (effend - effstart).

Related:

lpend – end of lp point (ratio)

lpstart1

Name:

lpstart1 – start of lp point (ratio) for indirect dimension

Data type: real

Functional group: Procparams

Description:

The proportional value of the start point to be predicted in the indirect dimension.

Value:

0 ~ 1. The default value is 1. When "effstart1" and "effend1" do not use the default value, the values of "lpstart1" and "lpend1" must satisfy (lpend1 - lpstart1) ≦ (effend1 - effstart1).

Related:

lpend1 – end of lp point (ratio) for indirect dimension

magnet

Name:

magnet – magnet information

Data type: string

Functional group: Acquparams

Description:

Displays the magnet information for the current experiment.

Value:

The default is "wuhan-oxford".

Related:

None

mixingtime

Name:

mixingtime – NOESY mixing time

Data type: real

Functional group: Acquparams

Description:

NOESY mixing time.

Value:

0~2147483647. The default value is 1, in seconds (s). Generally, the molecular mass is less than 600, setting mixing time=0.5~1s, molecular mass between 600~1200, setting mixingtime=0.1~0.5s, molecular mass greater than 1200, setting mixingtime=0.05~0.2s.

Related:

None

mult

Name:

mult – multiple coefficient

Data type: real

Functional group: Acquparams

Description:

Multiple coefficient, which is used in certain sequences such as DEPT.

Value:

1 ~ 2147483647. The default value is 1.

Related:

None

np

Name:

np – size of FID

Data type: real

Functional group: Acquparams

Description:

Size of FID.

Value:

32 ~ $2*10^6$. The default value is 6000.

Related:

acqtime – acquisition time

np1 ~ np3

Name:

np1 ~ np3 – size of FID for indirect dimension

Data type: real

Functional group: Acquparams

Description:

Size of FID for indirect dimension.

Value:

32 ~ $2*10^6$. The default value is 6000.

Related:

acqtime1 ~ acqtime3 – acquisition time of indirect dimension

ns

Name:

ns – number of scans

Data type: integer

Functional group: Acquparams

Description:

The number of scans, ns are generally set larger for uncertain samples.

Value:

1 ~ 2147483647. The default value is 1.

Related:

dummyscan – number of dummy scans

nuc ~ nuc3

Name:

nuc ~ nuc3 – nucleus

Data type: string

Functional group: Acquparams

Description:

nuc ~ nuc3 correspond to the nucleus of the f1~f4 channel, respectively.

Value:

Contains common nuclei H1, C13, N15, P31, F19, D, O17, and other very useful nuclei can be added as needed. nuc, nuc2, and nuc3 default to H1, and nuc1 defaults to C13.

Related:

frqb ~ frqb3 – basic transmitter frequency

frqo ~ frqo3 – transmitter frequency offset

frqohz ~ frqohz3 – transmitter frequency offset

p1 ~ p20

Name:

p1 ~ p20 – pulse width

Data type: real

Functional group: Acquparams

Description:

Pulse width.

Value:

0 ~ 2147483647. The default is 7. Unit: microsecond (μs).

Related:

None

ph1 ~ ph20

Name:

ph1 ~ ph20– pulse phase

Data type: array

Functional group: Acquparams

Description:

Displays a list of phases in the pulse sequence used in the current experiment.

Value:

ph1~ ph20, the specific number depends on the number of phases used by the pulses.

Related:

None

plvl1 ~ plvl20

Name:

plvl1 ~ plvl20 – power level

Data type: real

Functional group: Acquparams

Description:

The power of the hard pulse.

Value:

-32 ~ 63. The default is 58. Unit: decibel (dB).

Related:

None

predelay

Name:

predelay – pre-pulse delay

Data type: real

Functional group: Acquparams

Description:

In most pulse sequences, a delay time is required before each pulse to allow the transmitter to set the frequency and power, that is, pre-pulse delay.

Value:

0 ~ 2147483647. The default value is 8. Unit: microsecond (μs).

Related:

None

probe

Name:

probe – probe information

Data type: string

Functional group: Acquparams

Description:

Displays probe information for the current experiment.

Value:

The default value is “probehead”.

Related:

None

pulseseq

Name:

pulseseq – current pulse program

Data type: string

Functional group: Acquparams

Description:

This parameter indicates the pulse sequence file name of the current workspace.

Value:

Pulse sequence file name, default value is “s1pul.ps”.

Related:

None

pulseshape ~ pulseshape9

Name:

pulseshape ~ pulseshape9 – pulse shape

Data type: string

Functional group: Acquparams

Description:

Pulse shape, a function representing the shape of the pulse.

Value:

The shape parameter information of the shape pulse is saved in the file, so the value is the file name, and the default value is “gauss.rf”.

Related:

None

referred

Name:

referred – flag for reference

Data type: string

Functional group: Procparams

Description:

If referred is "true", it indicates that the reference has been determined. If the referred value is "false", it means that the reference is undetermined.

Value:

true, reference has been determined. false, the reference is undetermined. The default value is "true".

Related:

None

reffrq

Name:

reffrq – spectrum reference frequency offset

Data type: real

Functional group: Procparams

Description:

Indicates the leftmost abscissa value of the spectrum, that is, the offset from the origin. The software automatically sets the value of "reffrq" after Fourier transform or scaling.

Value:

-10^6~10^6. The default value is 1. Unit: ppm.

Related:

None

reffrq1

Name:

reffrq1 – spectrum reference frequency offset for indirect dimension

Data type: real

Functional group: Procparams

Description:

Indicates the leftmost abscissa value of the spectrum, that is, the offset from the origin. The software automatically sets the value of “reffrq1” after Fourier transform or scaling.

Value:

$-10^6 \sim 10^6$. The default value is 1. Unit: ppm.

Related:

None

reverse

Name:

reverse – reverse spectrum during transform

Data type: string

Functional group: Procparams

Description:

If the reverse value is true, the spectrum is inverted after the Fourier transform. If the reverse value is false, the spectrum is not inverted after the Fourier transform.

Value:

true, reverses the spectrum; false, does not reverse the spectrum. The default is false.

Related:

None

reverse1

Name:

reverse1 – reverse spectrum during transform for indirect dimension

Data type: string

Functional group: Procparams

Description:

If the reverse1 value is true, the spectrum is inverted after the Fourier transform. If the reverse1 value is false, the spectrum is not inverted after the Fourier transform.

Value:

true, reverses the spectrum; false, does not reverse the spectrum. The default is false.

Related:

None

sample

Name:

sample – sample description

Data type: string

Functional group: Acquparams

Description:

Displays sample information for the current experiment.

Value:

The default is empty.

Related:

None

satdelay ~ satdelay9

Name:

satdelay ~ satdelay9 – pre-saturation delay

Data type: real

Functional group: Acquparams

Description:

The action time of the saturation pulse.

Value:

0~10. The default value is 1. Unit: second (s).

Related:

satfreq ~ satfreq9 – pre-saturation frequency offset

satplvl ~ satplvl9 – pre-saturation power level

satfreq ~ satfreq9

Name:

satfreq ~ satfreq9 – pre-saturation frequency offset

Data type: real

Functional group: Acquparams

Description:

Pre-saturation frequency offset.

Value:

-10^6~10^6. The default value is 0. Unit: Hertz (Hz).

Related:

satdelay ~ satdelay9 – pre-saturation delay

satplvl ~ satplvl9 – pre-saturation power level

satplvl ~ satplvl9

Name:

satplvl ~ satplvl9 – pre-saturation power level

Data type: real

Functional group: Acquparams

Description:

Pre-saturation power level.

Value:

-32~30, the default is 2. Unit: decibel (dB).

Related:

satdelay ~ satdelay9 – pre-saturation delay

satfreq ~ satfreq9 – pre-saturation frequency offset

sfrq ~ sfrq3

Name:

sfrq ~ sfrq3 – transmitter frequency

Data type: real

Functional group: Acquparams

Description:

sfrq ~ sfrq3 correspond to the transmit frequencies of the f1~f4 channels, respectively.

Value:

0~1000. The default value is 399.84. Unit: Megahertz (MHz).

Related:

frqb ~ frqb3 – basic transmitter frequency

frqo ~ frqo3 – transmitter frequency offset

frqohz ~ frqohz3 – transmitter frequency offset

slpltocsy

Name:

slpltocsy – power level for TOCSY-spinlock

Data type: real

Functional group: Acquparams

Description:

Power level for TOCSY-spinlock.

Value:

-32 ~ 63. The default value is 40. Unit: decibel (dB).

Related:

None

slplroesy

Name:

slplroesy – power level for ROESY-spinlock

Data type: real

Functional group: Acquparams

Description:

Power level for ROESY-spinlock.

Value:

-32 ~ 63. The default value is 40. Unit: decibel (dB).

Related:

None

sb

Name:

sb – sine bell

Data type: real

Functional group: Procparams

Description:

Sine function weighting coefficient.

Value:

Sine weighting according to the function $\sin(t * p/(2 * sb * at))$. Squared sine weighting by function $\sin^2(t * p/(2 * sb * at))$. Where t is the time $t = \frac{i-1}{swhz}$ corresponding to the current point, i is the current index of points, and swhz is the spectral width.

$-10^6 \sim 10^6$, when the value is 0, the SineBell weighting is canceled.

The default is 0.5.

Related:

sbs – sine bell shift

swhz – spectral width

sb1

Name:

sb1 – sine bell for indirect dimension

Data type: real

Functional group: Procparams

Description:

Sine function weighting coefficient for indirect dimension.

Value:

Sine weighting according to the function $\sin(t * p/(2 * sb * at))$. Squared sine weighting by function $\sin^2(t * p/(2 * sb * at))$. Where t is the time $t = \frac{i-1}{swhz}$ corresponding to the current point, i is the current index of points, and swhz is the spectral width.

$-10^6 \sim 10^6$, when the value is 0, the SineBell weighting is canceled.

The default is 0.5.

Related:

sbs1 – sine bell shift for indirect dimension

swhz1 ~ swhz3 – spectral width of indirect dimension

sbs

Name:

sbs – sine bell shift

Data type: real

Functional group: Procparams

Description:

The sine function offset weighting factor, generally used with sb, changes the origin of the SineBell function.

Value:

Sine weighting according to the function $\sin((t-sbs)*p/2*sb*at)$. Squared sine weighting by function $\sin^2((t-sbs)*p/(2*sb*at))$. Where t is the time $t=\frac{i-1}{swhz}$ corresponding to the current point, i is the current index of points, and swhz is the spectral width.

sb=1, sbs=0 or sb=0.5, sbs=0 can achieve better results.

-10^6~10^6. The default is 0.

Related:

sb – sine bell

swhz – spectral width

sbs1

Name:

sbs1 – sine bell shift for indirect dimension

Data type: real

Functional group: Procparams

Description:

The sine function offset weighting factor, generally used with sb, changes the origin of the SineBell function.

Value:

Sine weighting according to the function $\sin((t-sbs)*p/2*sb*at)$. Squared sine weighting by function $\sin^2((t-sbs)*p/(2*sb*at))$. Where t is the time $t=\frac{i-1}{swhz}$ corresponding to the current point, i is the current index of points, and swhz is the spectral width.

sb=1, sbs=0 or sb=0.5, sbs=0 can achieve better results.

$-10^6 \sim 10^6$. The default is 0.

Related:

sb1 – sine bell for indirect dimension

swhz1 ~ swhz3 – spectral width of indirect dimension

sfidp

Name:

sfidp – number of FID shift points for group delay

Data type: real

Functional group: Procparams

Description:

Number of FID shift points for group delay.

Value:

$0 \sim 10^6$. The default value is 32.

Related:

None

si

Name:

si – size of spectrum

Data type: real

Functional group: Procparams

Description:

size of spectrum.

Value:

$32 \sim 10^7$. The default value is 1024.

Related:

None

si1

Name:

si1– size of spectrum for indirect dimension

Data type: real

Functional group: Procparams

Description:

Size of spectrum for indirect dimension.

Value:

$32 \sim 10^7$. The default value is 1024.

Related:

None

solvent

Name:

solvent – solvent

Data type: string

Functional group: Acquparams

Description:

Generally referred to as deuterated solvents, commonly used solvents are CDCl3, D2O, Acetone-d6, DMSO-d6, C6D6 and so on.

Value:

The following values can be taken: Acetic, Acetone, C6D6, CD2Cl2, CDCl3, C6F6, D2O, DME, DMF, DMSO, Dioxane, None, and the like. The default is CDCl3.

Related:

None

specstyle

Name:

specstyle – spectrum style

Data type: string

Functional group: Procparams

Description:

Displays the spectrum type of the current experiment.

Value:

The following values can be taken: absolute, phased, and power. The default is phased.

Related:

None

sp1 ~ sp20

Name:

sp1~sp20 – shaped pulse width

Data type: real

Functional group: Acquparams

Description:

Shaped pulse width.

Value:

0 ~ 2147483647. The default is 2000. Unit: microsecond (μs).

Related:

None

splvl1 ~ splvl20

Name:

splvl1~splvl20 –power level of shaped pulse

Data type: real

Functional group: Acquparams

Description:

Power level of shaped pulse.

Value:

-32 ~ 63. The default is 58. Unit: decibel (dB).

Related:

None

sw

Name:

sw – spectral width

Data type: real

Functional group: Acquparams

Description:

Indicates the spectral range observed.

Value:

0 ~ $2*10^6$. The default value is 12.0000. Unit: ppm.

Related:

swhz – spectral width

sw1 ~ sw3

Name:

sw1 ~ sw3 – spectral width of indirect dimension

Data type: real

Functional group: Acquparams

Description:

Indicates the spectral range observed.

Value:

0 ~ $2*10^6$. The default value is 12.0000. Unit: ppm.

Related:

swhz1 ~ swhz3 – spectral width of indirect dimension

swhz

Name:

swhz – spectral width

Data type: integer

Functional group: Acquparams

Description:

Indicates the spectral range observed.

Value:

0 ~ $2.5*10^6$. The default value is 6000. Unit: Hertz (Hz).

Related:

sw – spectral width

acqtime – acquisition time

swhz1 ~ swhz3

Name:

swhz1 ~ swhz3 – spectral width of indirect dimension

Data type: integer

Functional group: Acquparams

Description:

Indicates the spectral range observed.

Value:

0 ~ $2.5*10^6$. The default value is 6000. Unit: Hertz (Hz).

Related:

sw1 ~ sw3 – spectral width of indirect dimension

acqtime1 ~ acqtime3 – acquisition time of indirect dimension

temp

Name:

temp – target temperature temperature

Data type: real

Functional group: Acquparams

Description:

Displays the target temperature of the current experiment. That is, the experimental temperature set by the current experiment.

Value:

-100~200. The default is 0. Unit: °C.

Related:

vtstabprec – temperature stabilization precision

vtstabtime – temperature stabilization time

tempfinish

Name:

tempfinish – temperature when experiment finished

Data type: real

Functional group: Acquparams

Description:

Shows the temperature at the end of the current experiment.

Value:

-273~1000. The default is 0. Unit: °C.

Related:

tempstart – temperature when experiment started

tempstart

Name:

tempstart – temperature when experiment started

Data type: real

Functional group: Acquparams

Description:

Shows the temperature at the start of the current experiment.

Value:

The default is 0. Unit: °C.

Related:

tempfinish – temperature when experiment finished

timefinish

Name:

timefinish – time when experiment finished

Data type: string

Functional group: Acquparams

Description:

Shows the time at the end of the current experiment.

Value:

The default is 0000-00-00 00:00:00.

Related:

timestart – time when experiment started

timestart

Name:

timestart – time when experiment started

Data type: string

Functional group: Acquparams

Description:

Shows the time at the start of the current experiment.

Value:

The default is 0000-00-00 00:00:00.

Related:

timefinish – time when experiment finished

timesubmit – time when experiment is submitted

timesubmit

Name:

timesubmit – time when experiment is submitted

Data type: string

Functional group: Acquparams

Description:

Shows the time when experiment is submitted of the current experiment.

Value:

The default is 0000-00-00 00:00:00.

Related:

timestart – time when experiment started

timefinish – time when experiment finished

tunefrq

Name:

tunefrq – tune frequency

Data type: real

Functional group: Tune

Description:

The tuning frequency displayed by the Tune interface.

Value:

0~10^6. The default value is 399.84. Unit: Megahertz (MHz).

Related:

None

tunegain

Name:

tunegain – tune gain

Data type: integer

Functional group: Tune

Description:

The gain displayed by the Tune interface.

Value:

0~15. The default value is 15. Unit: decibel (dB).

Related:

None

tunenuc

Name:

tunenuc – tune nucleus

Data type: string

Functional group: Tune

Description:

Tune nucleus. Contains common nuclei H1, C13, N15, P31, F19, O16, D. Other very useful nuclei can be added as needed.

Value:

The default value is H1.

Related:

None

tunepoint

Name:

tunepoint – tune point

Data type: integer

Functional group: Tune

Description:

The tuning interface displays the number of points in the wobble curve.

Value:

1~500. The default value is 100.

Related:

None

tunepower

Name:

tunepower – tune power

Data type: integer

Functional group: Tune

Description:

Tune power.

Value:

0~63. The default value is 20. Unit: decibel (dB).

Related:

None

tunesw

Name:

tunesw – scan bandwidth of the tuning

Data type: real

Functional group: Tune

Description:

The scan bandwidth of the tuning interface.

Value:

0~50. The default value is 1. Unit: Megahertz (MHz).

Related:

None

username

Name:

username – user name

Data type: string

Functional group: Acquparams

Description:

User name.

Value:

The default is guest.

Related:

None

vtstabprec

Name:

vtstabprec – temperature stabilization precision

Data type: real

Functional group: Acquparams

Description:

Temperature stabilization precision. That is, the interval limit of the temperature fluctuation before acquisition, and acquisition is started after a certain period of stability within the accuracy range.

Value:

0.01~1. The default is 0.2. Unit: °C.

Related:

temp – target temperature temperature

vtstabtime – temperature stabilization time

vtstabtime

Name:

vtstabtime – temperature stabilization time

Data type: real

Functional group: Acquparams

Description:

Temperature stabilization time. That is, the temperature before acquisition is stable within the temperature accuracy range.

Value:

1~7200. The default is 30. Unit: s.

Related:

temp – target temperature temperature

vtstabprec – temperature stabilization precision

wdw

Name:

wdw – type of window function

Data type: string

Functional group: Procparams

Description:

Window functions, generally have exponential windows, Gaussian windows, sine windows, cosine windows, and so on. It needs to be used in windowed Fourier transform and windowed Fourier transform & phase correction.

Value:

It can be set to exponential, Gaussian, sine, squared sine, cos, squared cos. The default is exponential.

Related:

wft – Window function & Fourier transform

wdw1

Name:

wdw1 – type of window function for indirect dimension

Data type: string

Functional group: Procparams

Description:

Window functions, generally have exponential windows, Gaussian windows, sine windows, cosine windows, and so on. It needs to be used in windowed Fourier transform and windowed Fourier transform & phase correction.

Value:

It can be set to exponential, Gaussian, sine, squared sine, cos, squared cos. The default is exponential.

Related:

wft – Window function & Fourier transform

wgdelay

Name:

wgdelay – delay for binomial water suppression

Data type: real

Functional group: Acquparams

Description:

The binomial water peak suppression delay time determines the width of the non-excited band.

Value:

0 ~ 2147483647. The default value is 0.0003. Unit: second (s).

Related:

None

zph

Name:

zph – 0th order correction

Data type: real

Functional group: Procparams

Description:

Zero order phase correction factor.

Value:

0~360. The default value is 0. Unit: degree (°).

Related:

aph – 1D automatic phase correction

fph – 1st order correction

zph1

Name:

zph1 – 0th order correction for indirect dimension

Data type: real

Functional group: Procparams

Description:

Zero order phase correction factor for indirect dimension.

Value:

0~360. The default value is 0. Unit: degree (°).

Related:

aph – 1D automatic phase correction

fph1 – 1st order correction for indirect dimension