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INSTRUCTIONS

NM-66190SW

Delta NMR Software Release Notes V6.2.0

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JEOL

CONTENTS

NM-66190SW

Delta NMR Software
Release Notes
V6.2.0

Please be sure to read this instruction manual carefully, and fully understand its contents prior to the operation or maintenance for the proper use of the instrument.

JEOL

NOTICE

- This instrument generates, uses, and can radiate the energy of radio frequency and, if not installed and used in accordance with the instruction manual, may cause harmful interference to the environment, especially radio communications.
- The following actions must be avoided without prior written permission from JEOL Ltd. or its subsidiary company responsible for the subject (hereinafter referred to as “JEOL”): modifying the instrument; attaching products other than those supplied by JEOL; repairing the instrument, components and parts that have failed, such as replacing pipes in the cooling water system, without consulting your JEOL service office; and adjusting the specified parts that only field service technicians employed or authorized by JEOL are allowed to adjust, such as bolts or regulators which need to be tightened with appropriate torque. Doing any of the above might result in instrument failure and/or a serious accident. If any such modification, attachment, replacement or adjustment is made, all the stipulated warranties and preventative maintenances and/or services contracted by JEOL or its affiliated company or authorized representative will be void.
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- The information described in this manual, and the specifications and contents of the software described in this manual are subject to change without prior notice due to the ongoing improvements made in the instrument.
- Every effort has been made to ensure that the contents of this instruction manual provide all necessary information on the basic operation of the instrument and are correct. However, if you find any missing information or errors on the information described in this manual, please advise it to your JEOL service office.
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Telephone: 81-42-543-1111 Facsimile: 81-42-546-3353 URL: http://www.jeol.com/

Note: For servicing and inquiries, please contact your JEOL service office.

WARRANTY INFORMATION

1 Limited Warranty

Products manufactured by JEOL Ltd. (hereafter “JEOL products”) that fail under normal use by the customer during the warranty period will be repaired or replaced, at JEOL’s discretion, without charge. The components, modules and devices that are provided as replacements will be new parts or refurbished parts that provide the same performance as new parts. All components, modules and devices removed under this warranty become the property of JEOL.

1.1 Applicable Products

- This warranty applies only to hardware and software products manufactured by JEOL Ltd.
- For components that are not JEOL products, such as the computer, HDD, memory device, and the like, the warranty provisions of the respective manufacturers shall apply.

1.2 Warranty Period

- In the case of products for which the warranty period is recorded in the contract documentation, the recorded warranty period shall take precedence.
- If not specifically stated elsewhere, the warranty period is 12 months or a separately specified period from the date on which the acceptance test is completed after delivery to the customer.
- For components that are not JEOL products, like the computer, HDD, memory device, and the like, the warranty start date shall be the date on which the acceptance test is completed after delivery to the customer and the warranty periods established by the respective makers shall apply.
- In the event that parts are replaced or repaired free of charge during the warranty period, there is no change to the warranty start date or the warranty period for the product.

1.3 Scope of the Warranty

■Failure diagnosis

If a problem occurs, contact your JEOL service office and describe the conditions and content of the problem. JEOL will assess the problem based on the situation and content of the problem.

■Repair method

If it is determined that the problem is caused by a fault or defect of a JEOL product, repair or replacement will be performed free of charge. The choice of whether to repair or replace a component is entirely at the discretion of JEOL.

■Warranty exclusions

This limited warranty does not extend to products for which any of the following situations apply. Even within the warranty period, in the situations listed below, a fee will be charged to repair the product.

- Product is operated or stored in an environment or under conditions that do not satisfy the specified installation requirements.
- The installation environment has changed (temperature, humidity, magnetic fields, etc.) since the time of installation.
- There is significantly accelerated deterioration of components and/or corrosion of electrical circuitry as a result of exposure to extreme temperature, humidity, or an environment containing highly-corrosive gases or excessive dust.
- The quality of the utilities (including electricity, water, gas, air quality) has worsened.
- The customer has relocated an installed instrument.

- Even in the case of a portable or movable instrument designed to be transported to a remote location or moved around for use by the user, damage or failures caused during the instrument relocation by the customer.
- Product has not been properly maintained.
- Consumable items or parts with the specified replacement period have not been replaced as specified.
- Corrupted operating system or application software, or damaged computer used with the instrument, caused by shutting down the main power to the computer without performing the proper shutdown sequence.
- Products that have been disassembled, modified or repaired by the customer in ways other than those specified in the instruction manuals provided with the instrument.
- Products with damage or failure caused by using them in combination with hardware, software, peripheral devices, and accessories that have not been provided or approved by JEOL.
- Damage or failure resulting from a situation caused by the customer, such as failing to properly manage the instrument, for which JEOL cannot be held responsible.
- Corruption of the operating system or application software, or damage to a computer used with the instrument, caused by fluctuations in the electricity or power failure.
- Product damaged as a result of fire, earthquake, flooding, lightning or other natural disaster, or due to local conflict or war.
- Damage or malfunction of operating system, application software, or the instrument itself as a result of infection by a computer virus.
- Instruments that have been restored after being disposed of or re-sold without prior written notice to and agreement from JEOL.

1.4 Items Not Covered by Warranty

- Regardless of whether a product is still within the warranty period, this warranty does not cover losses or damage to devices made by any other manufacturer at the customer site even if they are damaged by a malfunction of the JEOL product.
- JEOL is not responsible for any loss or damage to data recorded onto storage media, or to storage units. The customer is responsible for making back-up copies of their own data.
- Replacement parts for maintenance of the instrument functionality and performance are retained and available for seven years from the date of installation. Thereafter, some of those parts may be available for a certain period of time. Please contact your JEOL service office for details before the period of retention has passed.
- For items that are frequently updated, remodeled, or disappear from the market, like the computers used with the JEOL products, it may not be possible to obtain an exact replacement.

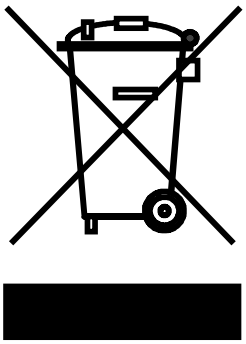
2 Repairs for a Fee

Repairs of JEOL products are available with charges after the end of the warranty period, or at anytime a customer requests. The components, modules and devices that are provided as replacements during the paid repair work will be new parts or refurbished parts that provide the same performance as new parts. All components, modules and devices removed during such repairs will become the property of JEOL.

- The warranty period for parts replaced and the service during paid repair work is a period of 3 months after the completion of the repairs; or, in the case of parts that must be periodically replaced, the warranty period is the length of the specified replacement period.
- In the event that repairs are performed again during the warranty period, there is no change to the warranty start date or the warranty period.

Notes on Disposal for Business Users

Attention:
Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a separate collection system for these products.



In the European Union

This symbol means that electrical and electronic equipment, at the end of its life, should be disposed of correctly.

In the European Union there is a separate collection system for used electrical and electronic products. Please help us to conserve the environment we live in!

Electrical and electronic appliances and machines often contain materials which, if handled or disposed of incorrectly, are potentially hazardous to human health and to the environment. They are, however, essential for the correct functioning of your appliance or machine. Therefore, please do not dispose of your old machine or appliance together with your household waste.

Your JEOL product is designed and manufactured with high-quality materials and components which can be recycled and reused. If the product is used for business purposes and you want to discard it, please contact your JEOL dealer, who will advise you about the end-of-life disposal arrangements.

Outside the European Union

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

NOTATIONAL CONVENTIONS AND GLOSSARY

■ Examples for general notations

– CAUTION –:	Important precautions for use, which, if not followed, may result in damage to or problems with the device itself.
IMPORTANT NOTICES :	Important notices for operating the instrument.
✍:	Additional points to remember regarding the operation.
☞:	A reference to another section, chapter or manual.
1, **2**, **3** :	Numbers indicate a series of operations to achieve a task.
◆ :	A diamond indicates a single operation that achieves a task.
File:	The names of menus, commands, or parameters displayed on the screen are denoted with **bold** letters.
File–Exit :	Selecting a menu item from a pulldown menu is denoted by linking the menu and the item with a dash (–). For example, **File–Exit** means selecting **Exit** from the **File** menu.
Ctrl :	Keys on the keyboard are denoted by enclosing their names in a box.

■ Examples for mouse and touch panel terminology

Mouse pointer:	A mark, displayed on the screen, which moves following the movement of the mouse. It is used to specify a menu item, command, parameter value, and other items. Its shape changes according to the situation.
Click:	To press and release the left mouse button.
Right-click:	To press and release the right mouse button.
Double-click:	To press and release the left mouse button twice quickly.
Drag:	To hold down the left mouse button while moving the mouse.
Tap:	Briefly touching and then releasing a point on a touch screen.
Double-tap:	Tapping a point on a touch screen twice in rapid succession.
Swipe:	Operation for changing the screen by touching a point on a touch screen and dragging in a certain direction.
Pinch-in:	Operation to reduce the image size on the screen by touching two points on the touch screen simultaneously and dragging the two points closer together.
Pinch-out:	Operation to increase the image size on the screen by touching two points on the touch screen simultaneously and dragging the two points farther apart.

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1 ABOUT THIS DOCUMENT

This document describes the functions of V6.2.0, the latest version of the application software program “Delta” for NMR (hereinafter referred to as “Delta”).

2 ABOUT Delta V6.2.0

- Delta V6.2.0 is software for data process and spectrometer control of JNM-ECZ/ECZL series spectrometers.
- To connect to a spectrometer running the spectrometer control software V6.2.0, you need Delta V6.2.0 installed on your control PC.
- Delta V5.1.x software or later is required for processing data acquired using JNM-ECZ/ECZL series spectrometers. Appropriate processing results cannot be obtained using software Delta V.5.0.x or earlier.
- Delta V6.2.0 can process data from JNM-ECA/ECX/ ECS/ECAII/ECXII/ECZ/ECZL series spectrometers.
- The workstation folder path for “automation”, “experiments”, “favorites”, “logs”, “process_lists”, “reports”, “source”, and “templates” folders is as follows:

  Delta V6.2: C:¥Users¥<User name>¥Documents¥JEOL¥Delta 6.2

3 COPYRIGHT INFORMATION

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4 SUPPORTED ENVIRONMENTS

● Supported PCs

JEOL guarantees operation of this software for PCs of the following specifications and on corresponding JEOL products.

- PC: HP Z4 Workstation
- Processor: Intel® Xeon® W-2223 processor (3.6 GHz)
- Memory: 8 GB DDR4 SDRAM (2666 MHz)
- Hard disk: 500 GB 7200 rpm SATA
- Graphics adapter: NVIDIA® Quadro® T400 2 GB
- Optical drive: DVD writer (slimline)
- OS: Windows® 10 IoT Enterprise LTSC 2021
- Monitor: 23-inch IPS LCD

Delta is a 64-bit application and does not run on a 32-bit Windows® environment.

● Supported spectrometers

- JNM-ECZ series spectrometers
- JNM-ECZL series spectrometers

For information on upgrading NMR application software to Delta V6.2.0, consult your local JEOL Ltd. branch or agency.

5 ADDITIONS AND IMPROVEMENTS OF FUNCTIONS

The new or improved functions added to Delta V6.2.0 are as follows.

Category	Item	
Software	Delta SpecScan GLP	☞ Section 5.1
Data processing	Added a phase covariance function	☞ Section 5.2
Software	Faster login time in Smart mode	☞ Section 5.3
Software	Improved the File Information viewer	☞ Section 5.4
Software	Added functions to copy and cut files	☞ Section 5.5
Software	Improved the Batch Process Files tool	☞ Section 5.6
Software	Improved restricted input boxes	☞ Section 5.7
Software	Added hot keys to change operation modes in the Spectrometer Control window	☞ Section 5.8
Software	Added the **Search Axis Format** option to the File Search tool	☞ Section 5.9
Software	Improved the Chemometrics tool	☞ Section 5.10
Measurement	The phase correction function can now be disabled by clicking the **Abs** button on the Processing panel	☞ Section 5.11
Measurement	Added an announcement function to the spectrometer	☞ Section 5.12
Measurement	Added a function to display an error message if there is a problem with the probe file	☞ Section 5.13
Measurement	Added a function to display the probe ID in the Probe Tool window	☞ Section 5.14
Measurement	Automatic control of MASCONT Cooling and VT Ports	☞ Section 5.15
Data processing	Support for V3000 format molfiles	☞ Section 5.16
Measurement	Added a function to show/hide sample information to the **Jobs** menu	☞ Section 5.17
Measurement	Spectrometer can now be disconnected using the button on the upper-right corner of the **SCC** tab	☞ Section 5.18
Measurement	The mas_spin_delay parameter can now be added from the Experiment Tool	☞ Section 5.19
Measurement	Added a function to change privileges for each user account	☞ Section 5.20
Measurement	Updated pulse sequences	☞ Section 5.21
Measurement	Corrected gamma values	☞ Section 5.22
Measurement	Location where the data currently being measured is saved	☞ Section 5.23
Data processing	Added a function to adjust the overlaid data position	☞ Section 5.24
Data processing	Added functions to click the **ALT** and **SHIFT** buttons	☞ Section 5.25
Data processing	Three or more dimensional slice data can now be saved	☞ Section 5.26
Data processing	Data is automatically applied to the S/N Calculator tool	☞ Section 5.27

5.1 Delta SpecScan GLP

Delta SpecScan GLP is a GUI-based tool that enables processes of the GLP tool, which are available as automatic measurement scripts. With Delta SpecScan GLP, inputting parameters and requesting measurement for GLP tests can be done at once from the GUI. Users can see the results and history of the desired test by selecting the test and clicking the **Submit** button, without creating sample definitions or jobs.

- To run Delta SpecScan, the auto tuning unit is required.
- Delta SpecScan is a dedicated function for liquid-state NMR probes. Specified sample slots cannot be used for other purposes.
- Delta SpecScan runs after queues of all general users are finished, if any.
- The delta users, or general users, can perform all commands other than the setting and deleting of Delta SpecScan measurement parameters.

Commands	console user	delta user
Setting and deleting Delta SpecScan	Yes	No
Executing Delta SpecScan measurement	Yes	Yes
Checking measurement results	Yes	Yes

5.1.1 Starting Delta SpecScan

1. Log in to the spectrometer.

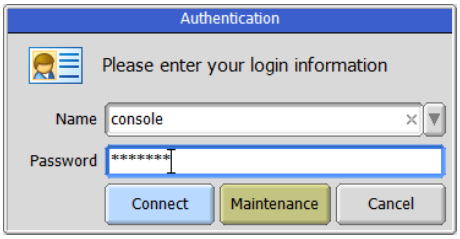

Figure 5.1 Authentication window

- All users can execute Delta SpecScan measurement.
- Only console users can set and delete parameters.

2. From the main menu, select **Config – Delta SpecScan – GLP**.

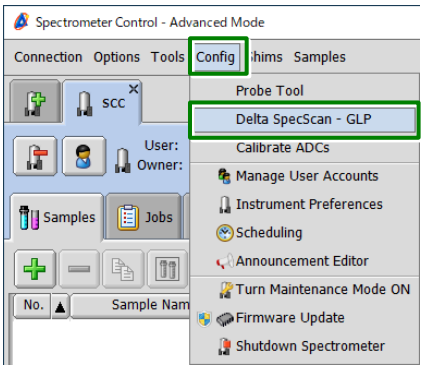

Figure 5.2 Delta SpecScan - GLP in the Config menu

5.1.2 Main window

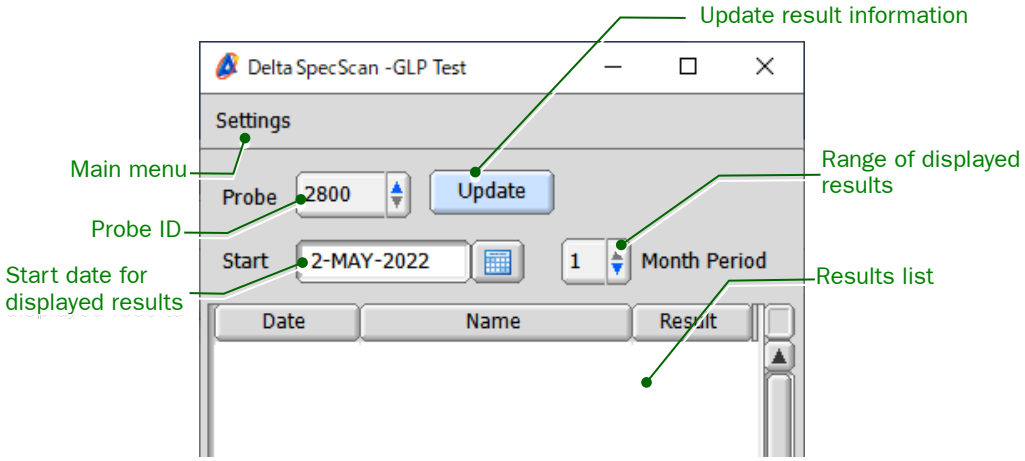

Figure 5.3 Delta SpecScan window

5.1.3 Settings menu

● Exp parameters

Specify the thresholds of criteria for measurements.

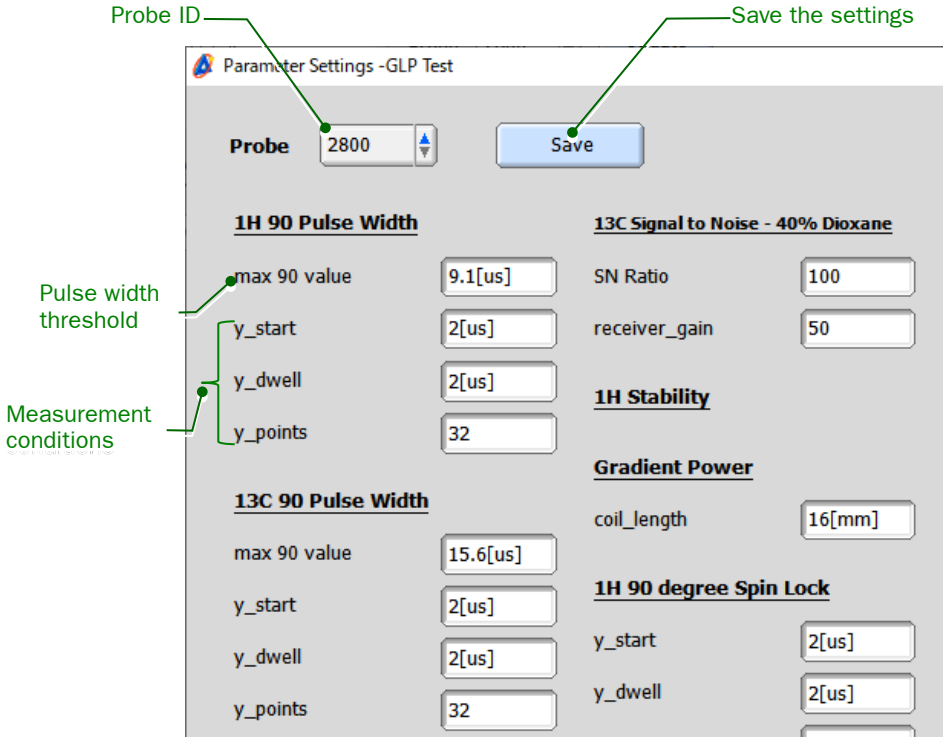

Figure 5.4 Parameter Settings window

Values in Figure 5.4 are just examples. You need to enter appropriate values based on the actual measured data.

Queues

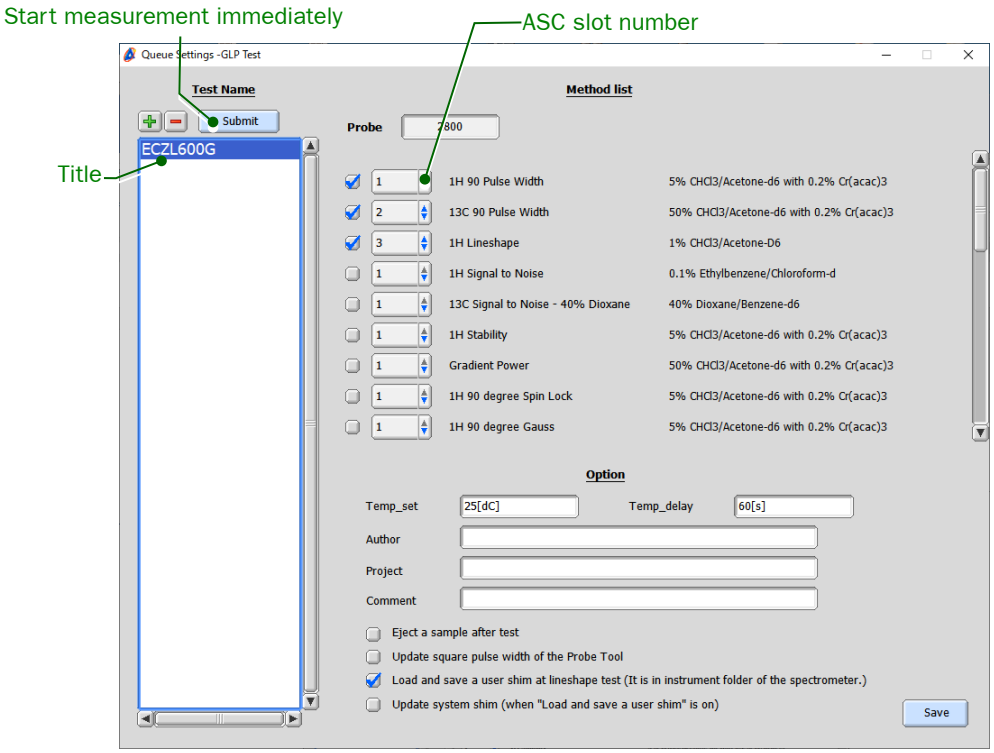

Figure 5.5 Queues Settings window

- **Temp_set, Temp_delay**
  Specify the measurement temperature and the waiting time for the temperature to stabilize.
- **Author**
  The entry in this field is included in the summary report.
- **Project**
  The entry in this field is used to categorize data when they are saved in the spectrometer data server.
- **Comment**
  The entry in this field is included in the summary report.
- **Update square pulse width of the Probe Tool**
  The square pulse width in the Probe Tool is updated when the test result is "Passed" and the obtained 90° pulse width is more than 10% and less than 30% of the value described in the Probe Tool.
  Even if the obtained value is within the criterion, a difference from the value in the Probe Tool is more than 30%, the test result will be "Failed" and the tool will prompt you to recheck the instrument.
- **Load and save a user shim at lineshape test**
  When the instrument "Passed" the line shape test, the shim file is saved.
  The saving location is the instrument_test folder of the spectrometer.
- **Update system shim**
  When the instrument "Passed" the line shape test, the system shim is updated.

● Print Report

Prints the selected result as the summary report.

● Delete Report

Deletes report results older than 90 days from the current time.

● Close

Closes the Delta SpecScan GLP menu.

5.1.4 Setting Delta SpecScan queues

This section explains how to set Delta SpecScan queues.

1. On the Delta SpecScan window, select **Settings – Queues**.

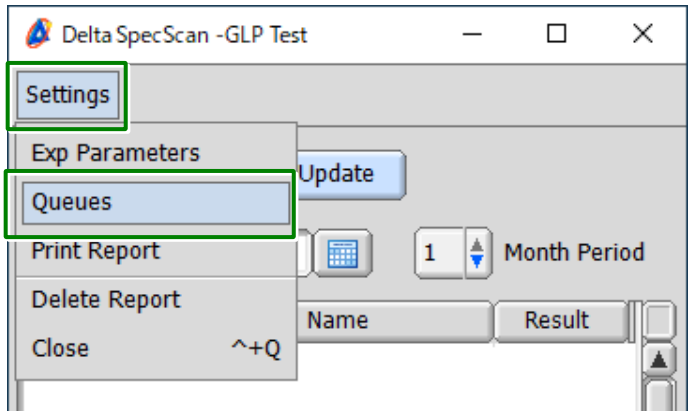

Figure 5.6 Settings menu in the Delta SpecScan window

2. Click the [+] button.

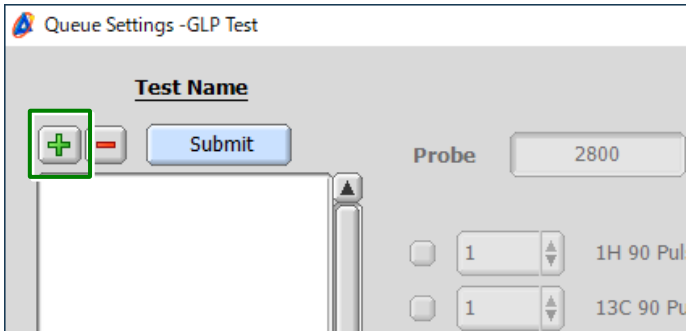

Figure 5.7 Queue Settings window

3. Enter a desired name and press Enter.

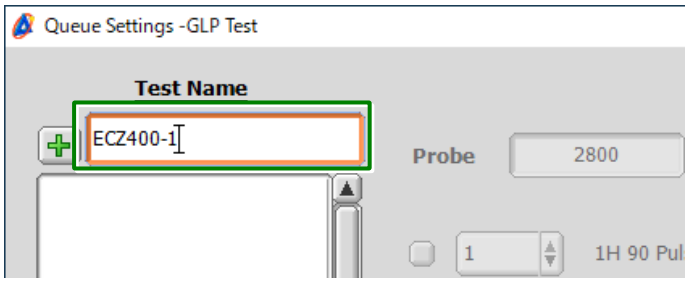

Figure 5.8 Entering the test name

4. Select the ID of the probe that is installed and click the **OK** button.

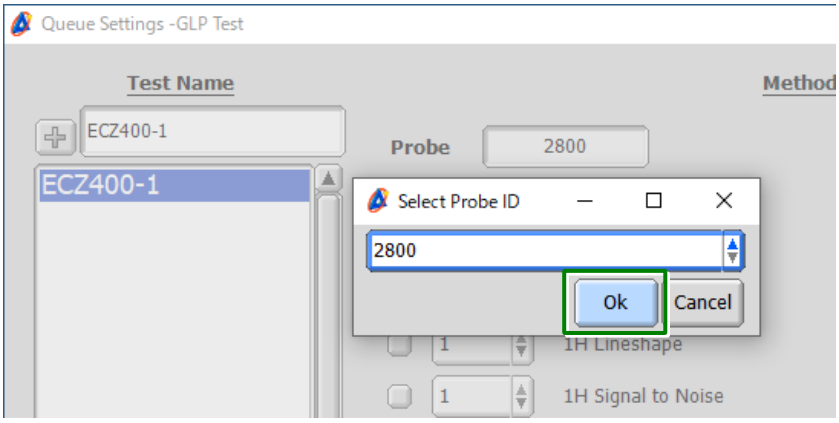

Figure 5.9 Selecting the probe ID

5. Select the slot for each measurement using the drop-down list.

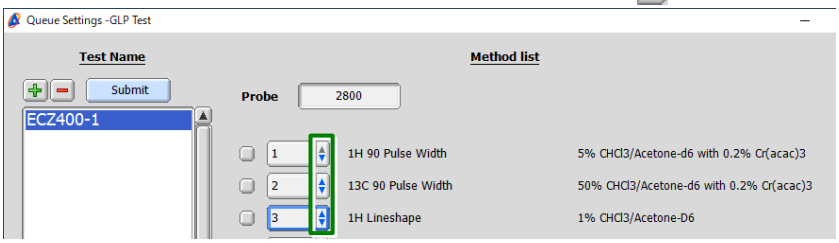

Figure 5.10 Selecting slots

6. Select the check boxes for the items that you want to measure.

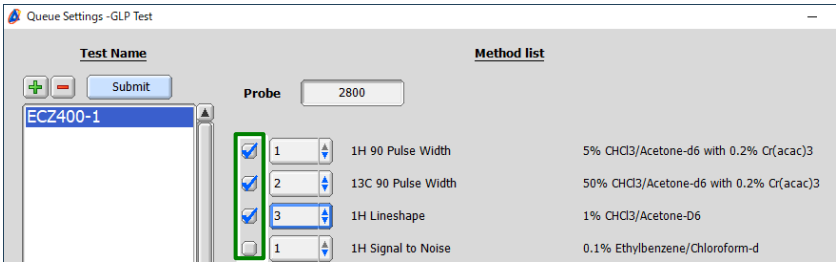

Figure 5.11 Selecting measurement items

7. Click the **Submit** button.

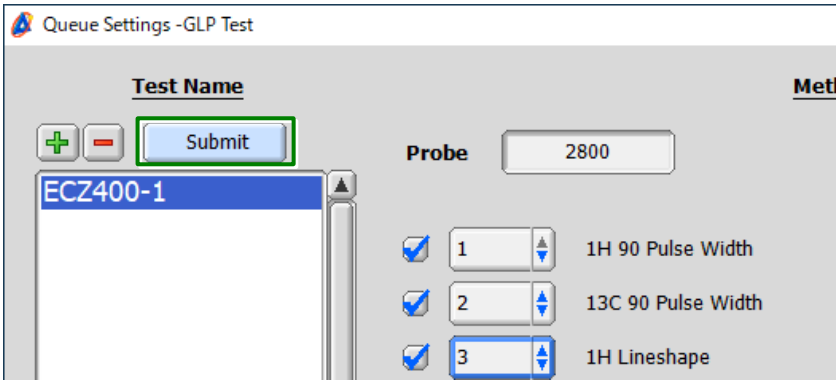

Figure 5.12 Selecting measurement items

8. Click the **OK** button.

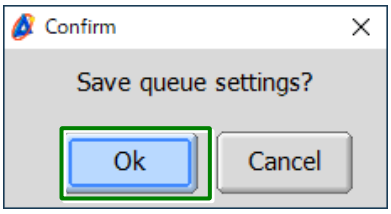

Figure 5.13 Confirm window

Clicking the **OK** button starts measurement.

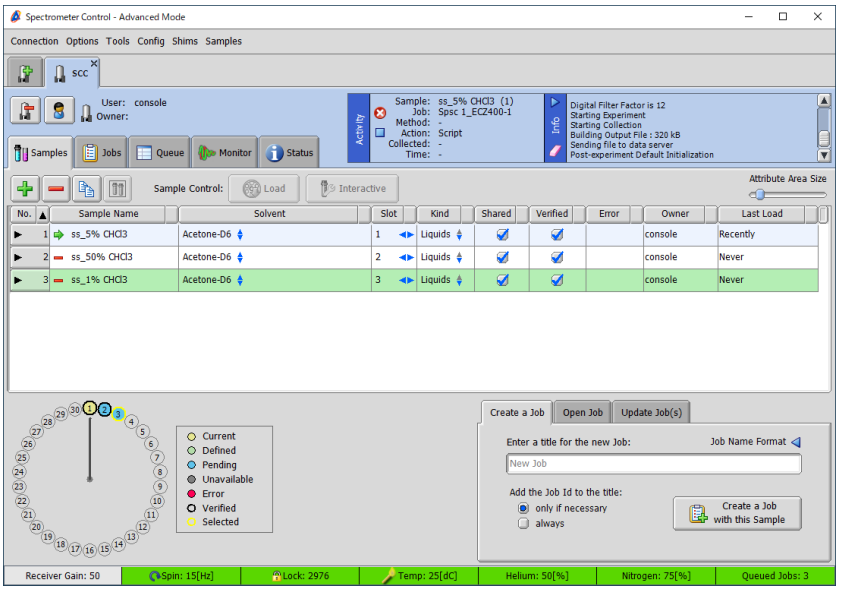

Figure 5.14 Spectrometer Control window

5.1.5 Seeing test results

When the GLP test is complete, the assessment results are displayed in the Delta SpecScan window.

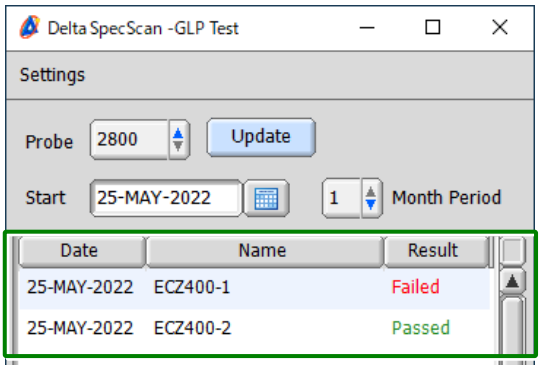

Figure 5.15 GLP test assessment results

Double-clicking an assessment result row lists the result details.

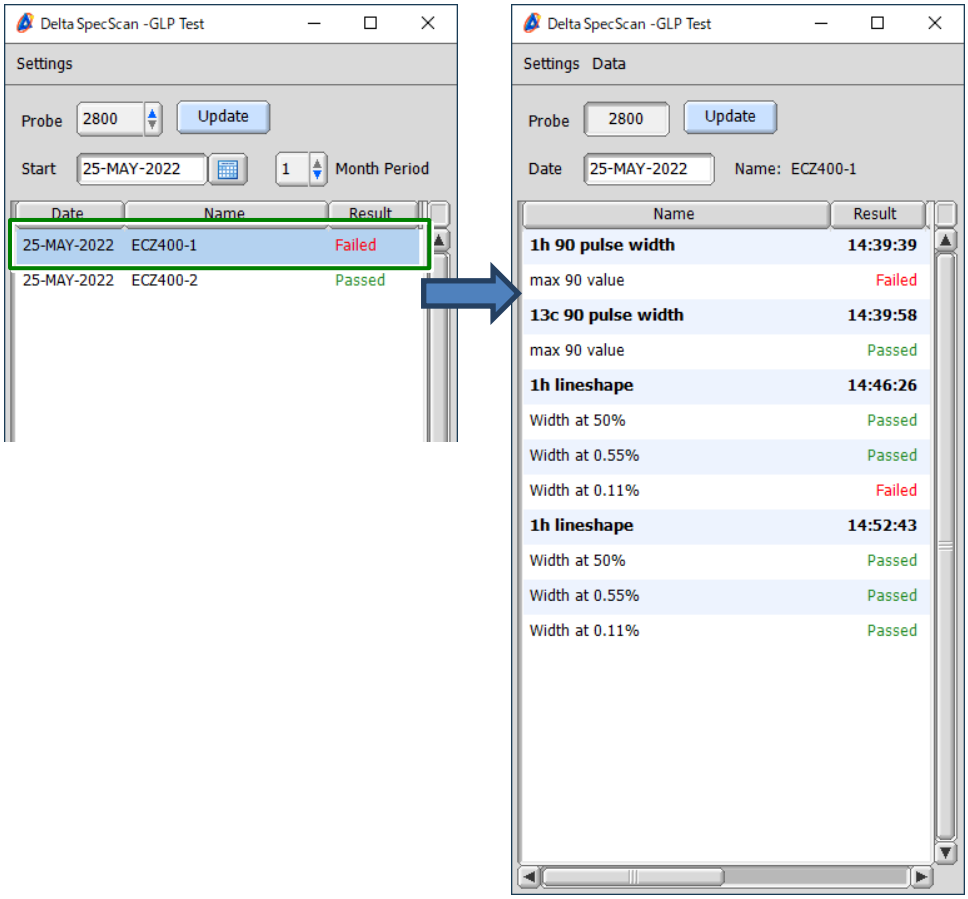

Figure 5.16 GLP test result details list

You can see Value, Criterion, and Trial No. by expanding the window.

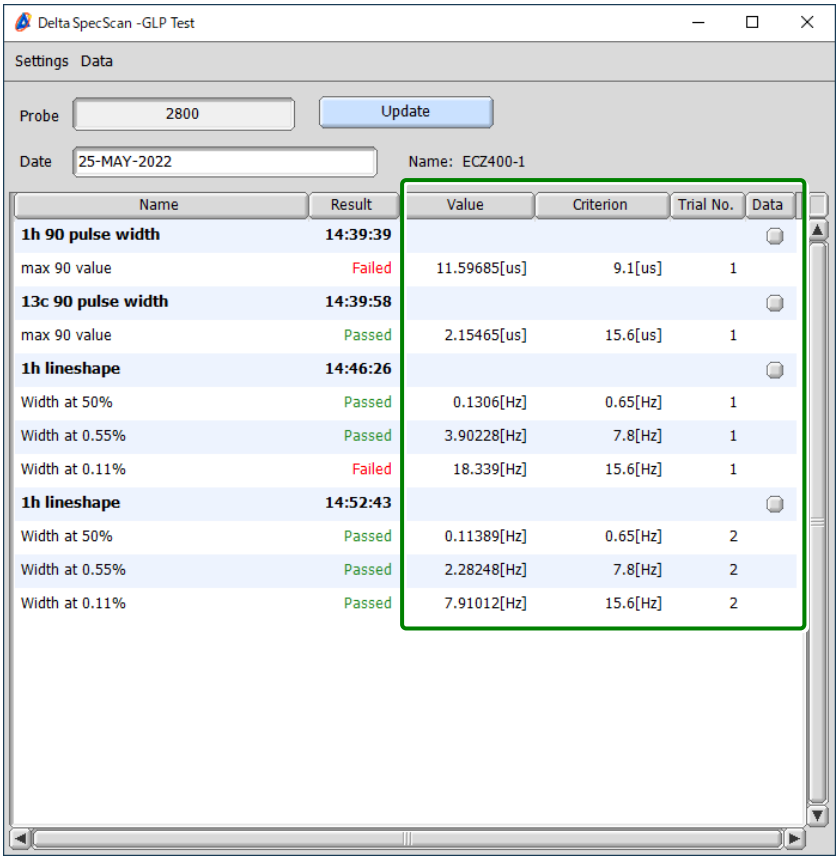

Figure 5.17 GLP test result details list

5.2 Added a Phase Covariance Function

A function using the phase covariance weighted (PCW) method [*1, *2] that improves the spectral S/N ratio has been implemented. In the PCW method, the S/N ratio can be improved by acquiring data sets with different acquisition phases, calculating covariances between the phases of the measurement data and the acquisition phases, and multiplying the covariances by the spectrum. This function is enabled by purchasing an additional license. For details, contact your local JEOL sales representative.

*1: Japanese Patent No. 5882978

*2: J. Fukazawa, K. Takegoshi, Phys. Chem. Chem. Phys., 12 (2010) 11225-11227.

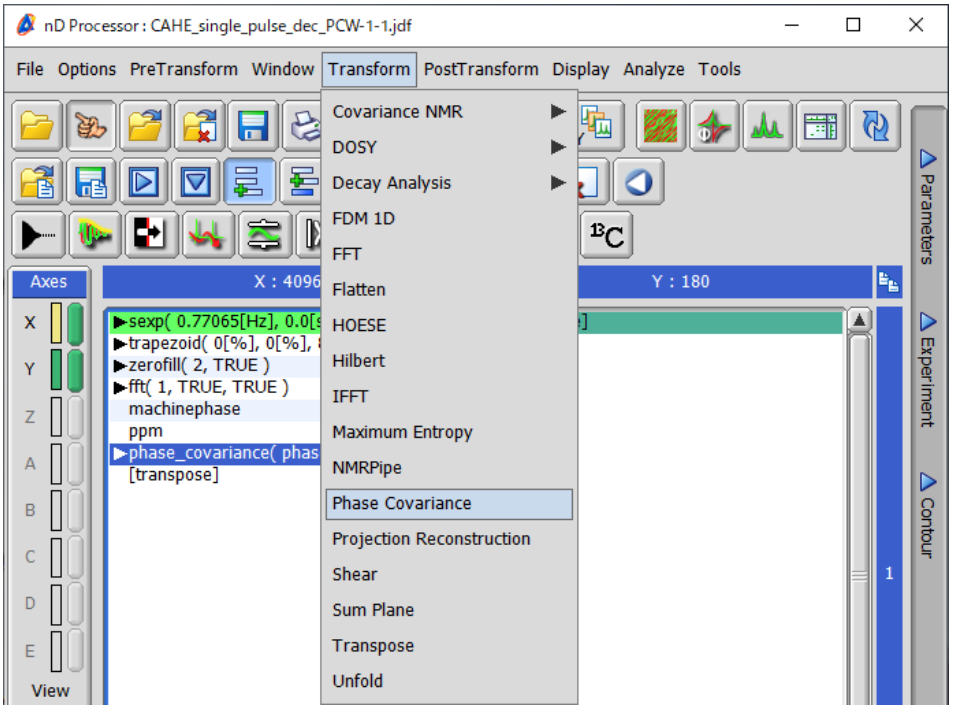

Figure 5.18 Phase covariance function

5.3 Faster Login Time in Smart Mode

The time required to log in to the spectrometer in Smart mode has been significantly reduced. When you log in to the spectrometer and then select a sample, the job for the sample will be loaded.

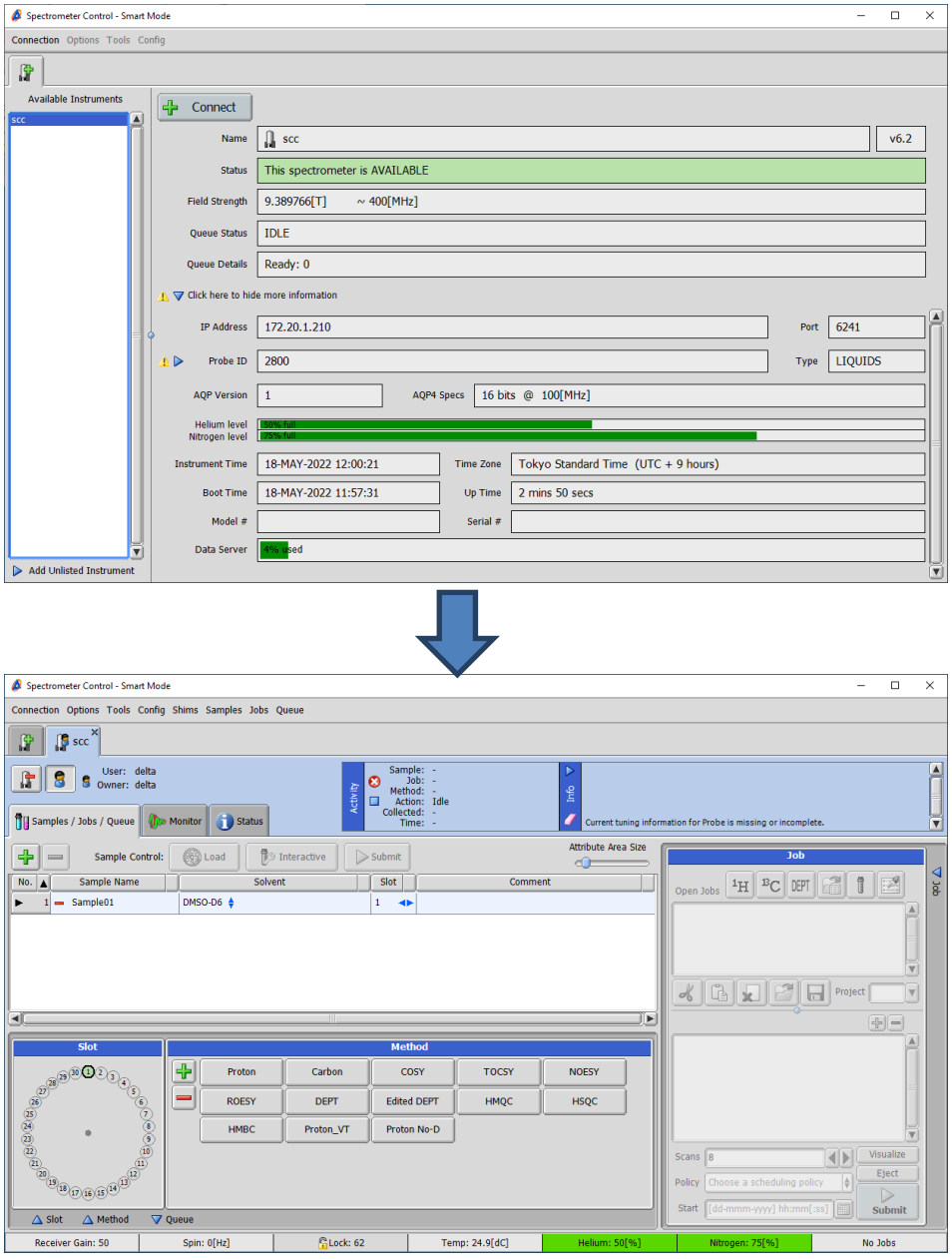

Figure 5.19 Faster login in Smart mode

5.4 Improved the File Information Viewer

5.4.1 Sorting parameters

The parameters can now be sorted in ascending or descending order.

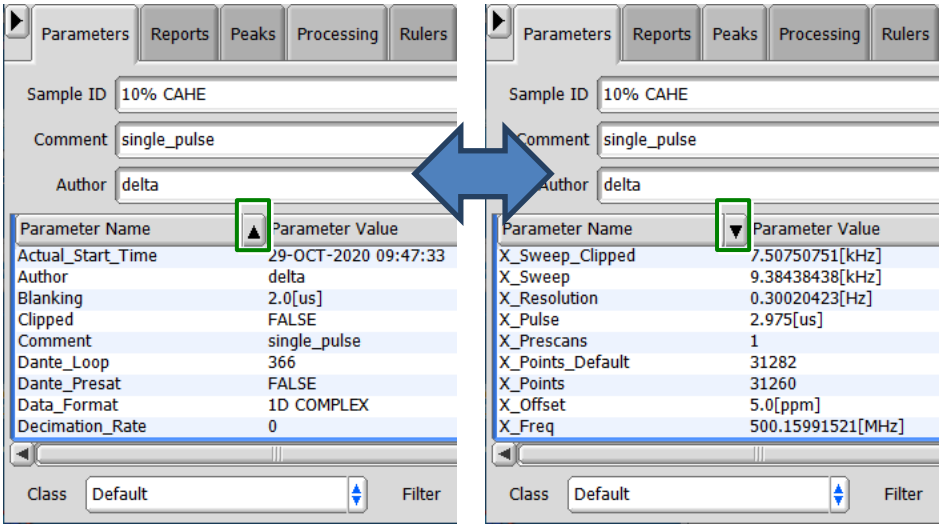

Figure 5.20 Sorting parameters

5.4.2 Comparing parameters

With the source data displayed on the File Information viewer, select **File – Compare Parameters** from the menu to add comparison target data.

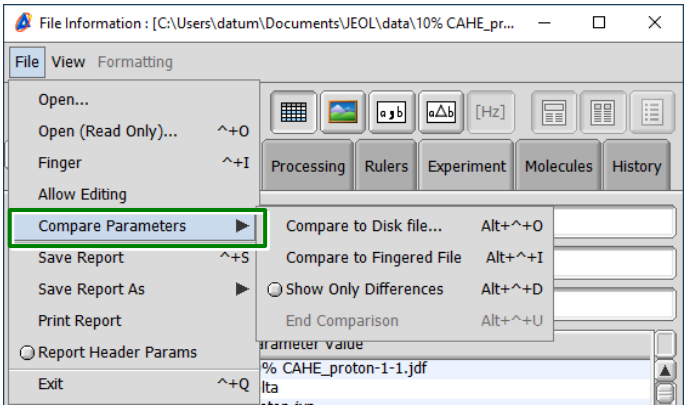

Figure 5.21 Adding data for comparison

When you add data, parameters are compared.

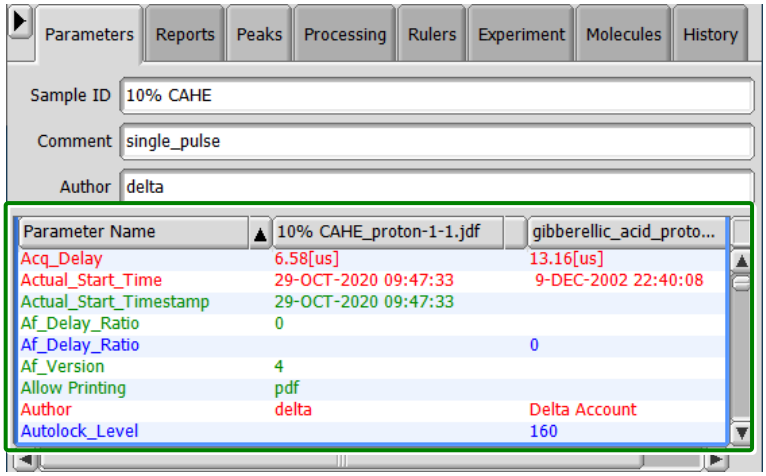

Figure 5.22 Comparison results shown

5.5 Added Functions to Copy and Cut Files

Functions have been added to the **File** menu on the File Browser window to copy and cut files.

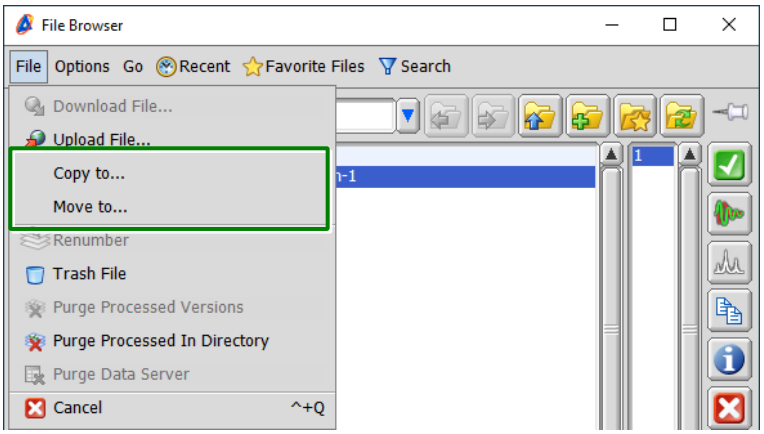

Figure 5.23 File menu on the File Browser window

5.6 Improved the Batch Process Files Tool

A function has been added to the Batch Process Files tool to overlay multiple files in the Data Slate window. When you specify a number in the Overlays field, up to the specified number of data files are overlaid in the Data Slate window.

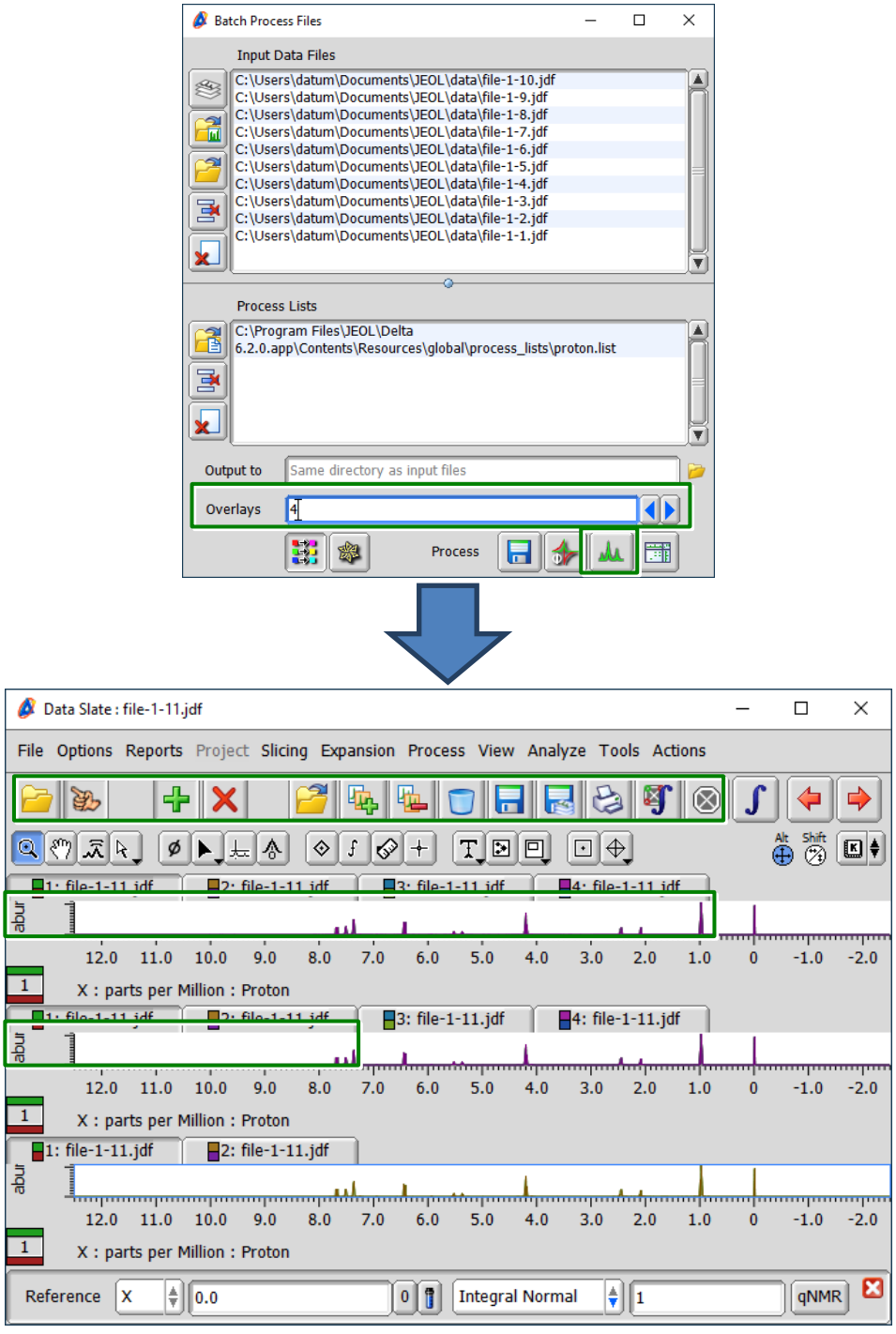

Figure 5.24 Output results in the Data Slate window

5.7 Improved Restricted Input Boxes

Functions of restricted input boxes, in which values are automatically input based on calculations of values from other boxes, have been improved.

When a maximum value is in the box, pressing the ↑ key replaces the value with the minimum one.

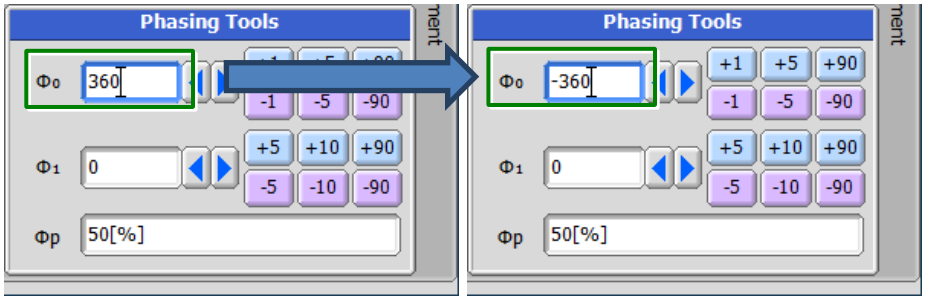

Figure 5.25 Minimum value input

When a minimum value is in the box, pressing the ↓ key replaces the value with the maximum one.

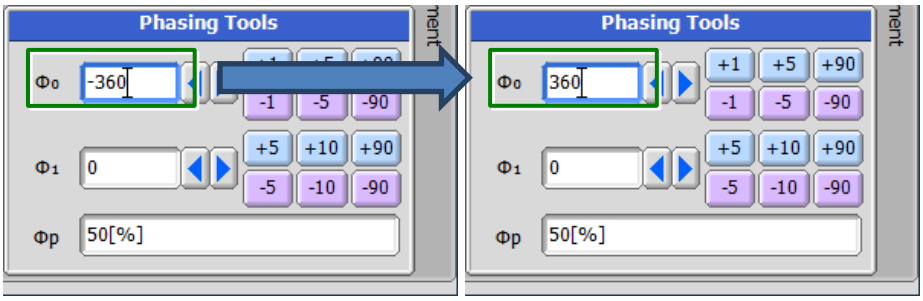

Figure 5.26 Maximum value input

5.8 Easy Operation Mode Change in the Spectrometer Control Window

Hot keys have been added that enable you to change operation modes on the Spectrometer Control window from the Delta console. Pressing the hot keys below on the Delta console changes operation modes.

- Advanced mode
  Ctrl + Shift + Alt + A
- Smart mode
  Ctrl + Shift + Alt + S
- Walkup mode
  Ctrl + Shift + Alt + W

5.9 Added a Function to the File Search Tool

The **Search Axis Format** option has been added to the search conditions in the File Search tool.

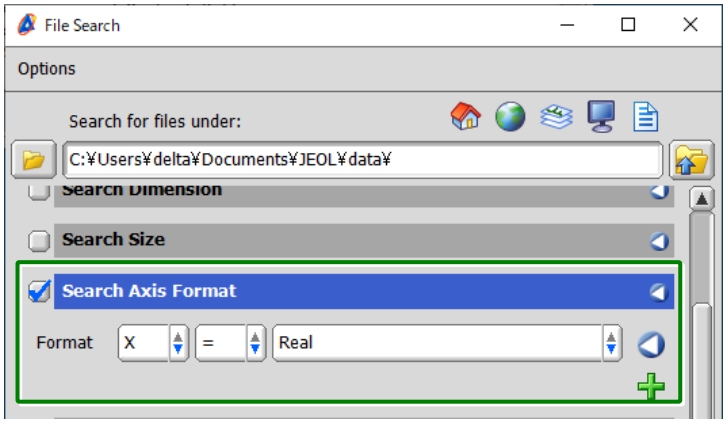

Figure 5.27 Search Axis Format option

The **Search Axis Format** option enables you to search files by choosing the axis, the equals sign or not equal to sign, and the type of collection pair.

5.10 Improved the Chemometrics Tool

5.10.1 Added the Selection menu

The **Selection** menu has been added to the Chemometrics Tool window.

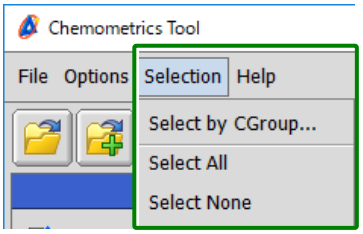

Figure 5.28 Selection menu on the Chemometrics Tool window

- Select by CGroup
  Selects files that are categorized as the specified group.

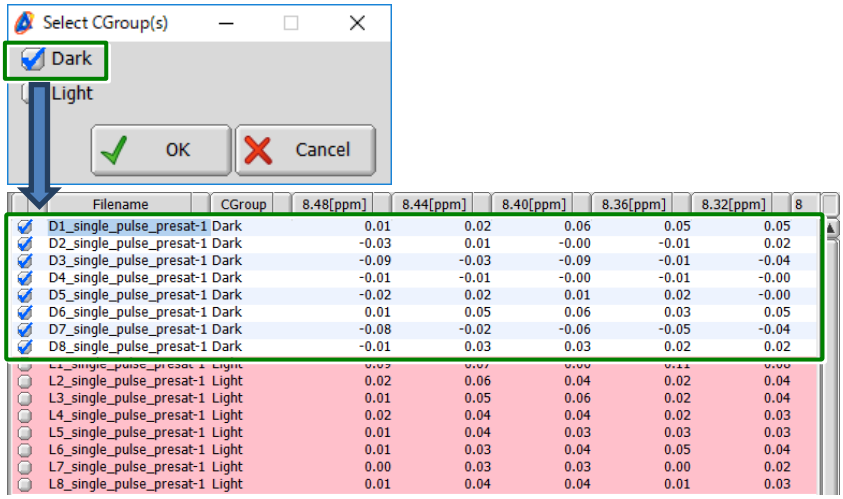

Figure 5.29 Select by CGroup

- Select All
  Selects all files.
- Select None
  Clears the selection for all files.

5.10.2 Added a function to enter the title in the analysis results

A function to enter the title has been added to the principal component analysis and hierarchical cluster analysis results in the Chemometrics tool.

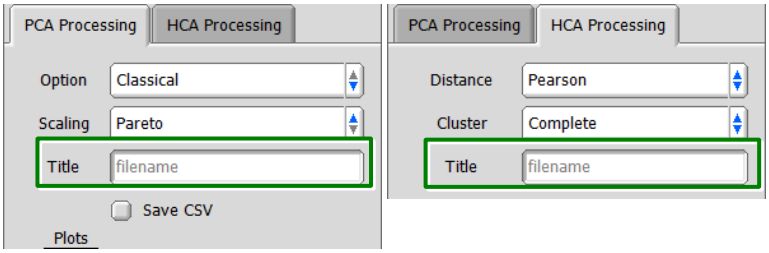

Figure 5.30 Title of analysis results

If the Title field is blank, the analysis results are displayed with the file name.

5.11 Phasing Tools Panel Masking during Absolute Value Display

The phase correction function can now be disabled on the **Monitor** tab by clicking the **Apply absolute value (Abs)** button on the Processing panel on the **Monitor** tab in the Spectrometer Control window. Turing the button on and off enables and disables the function.

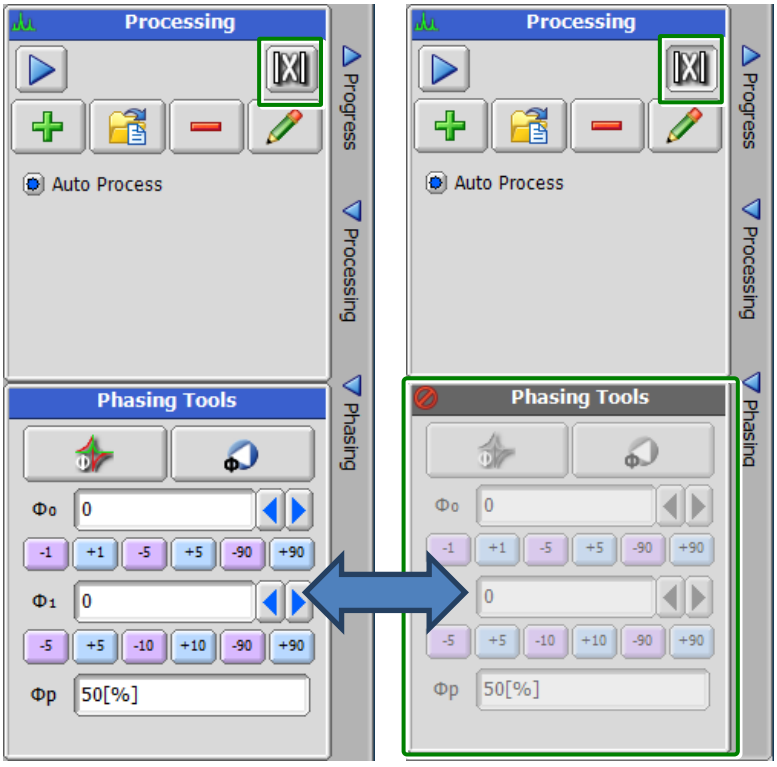

Figure 5.31 Masking the Phasing Tools panel

5.12 Added an Announcement Function at The Time of Connection to The Spectrometer

An announcement function has been added to show users messages when they connect to the spectrometer.

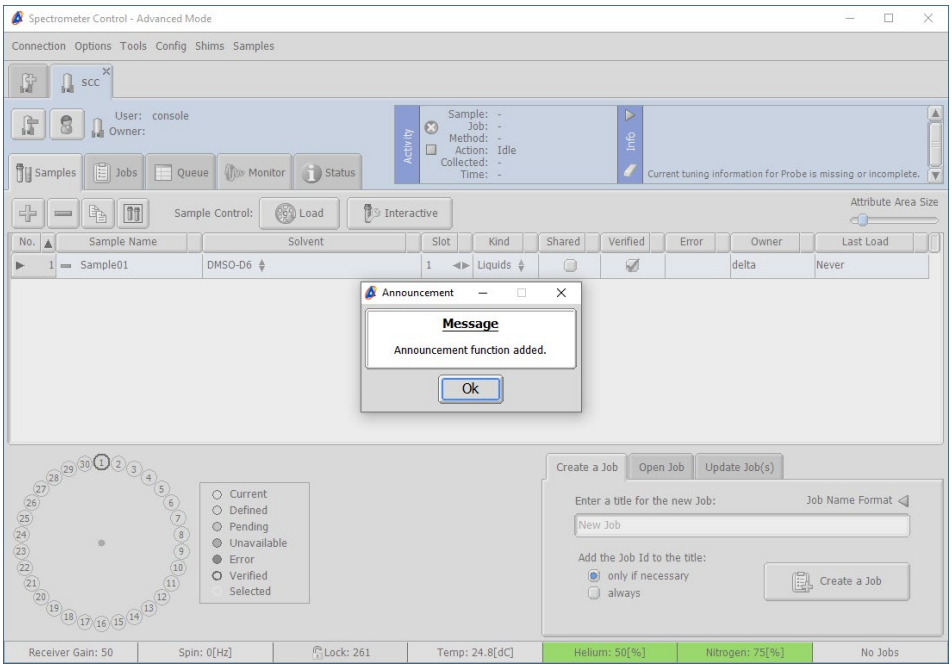

Figure 5.32 Announcement message

5.12.1 Setting a message

1. Connect to the spectrometer as a console user.
2. Select **Config – Announcement Editor**.

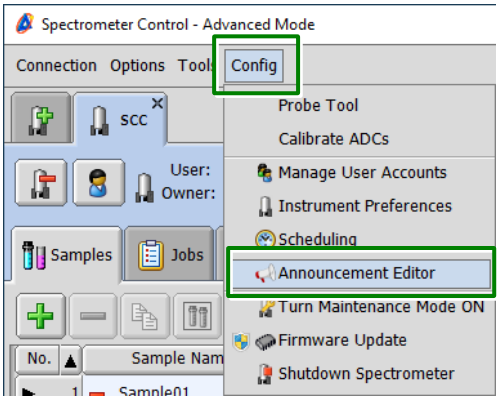

Figure 5.33 Announcement Editor in the Config menu

3. Enter the notification start date in the Event Begin field and the notification end date in the Event End field.

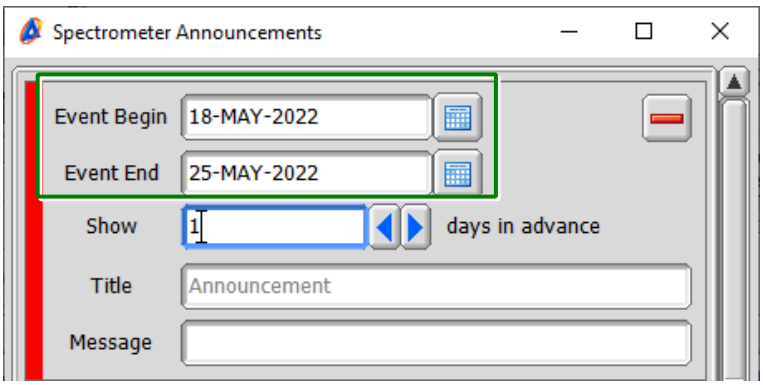

Figure 5.34 Start and end dates of notification

4. Enter the message title in the Title field and the message content in the Message field.

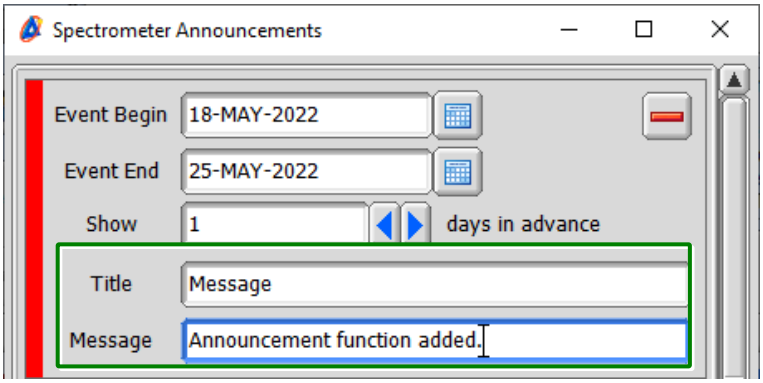

Figure 5.35 Title and content of the message

The announcement message is displayed even if the Title field is blank.

5. Click the **Save** button.

Figure 5.36 Saving the settings

Be sure to click the **Save** button to save and apply the settings.

6. Click the **Close** button.

5.12.2 Displaying the message

The message appears once when the user connects to the spectrometer. The user can check this message again whenever clicking the button that is displayed on the upper-right corner when selecting the spectrometer.

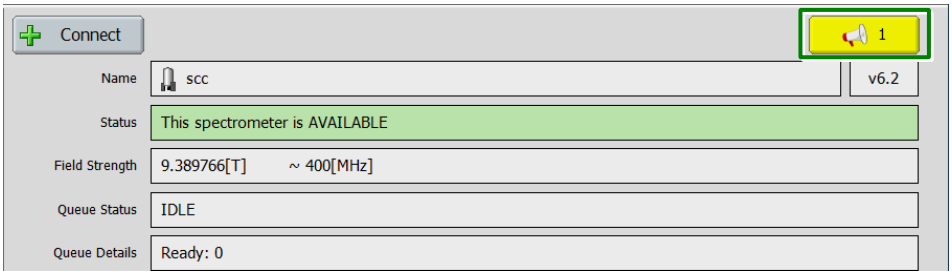

Figure 5.37 Message checking button

This button is present during the notification period only.

When you want to show the user the message again at the time of login, click the **Erase Seen List** button in the Spectrometer Announcements window.

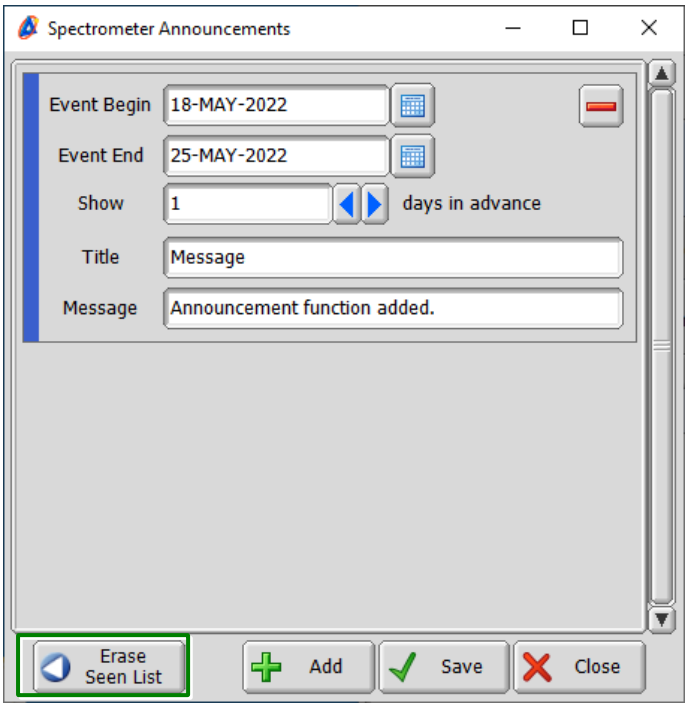

Figure 5.38 Erasing the list of seen messages

All users are notified of the message only once at the time of login.

5.12.3 Adding and deleting a message

You can register multiple messages to display. When you click the **Add** button in the Spectrometer Announcements window, you can create additional messages.

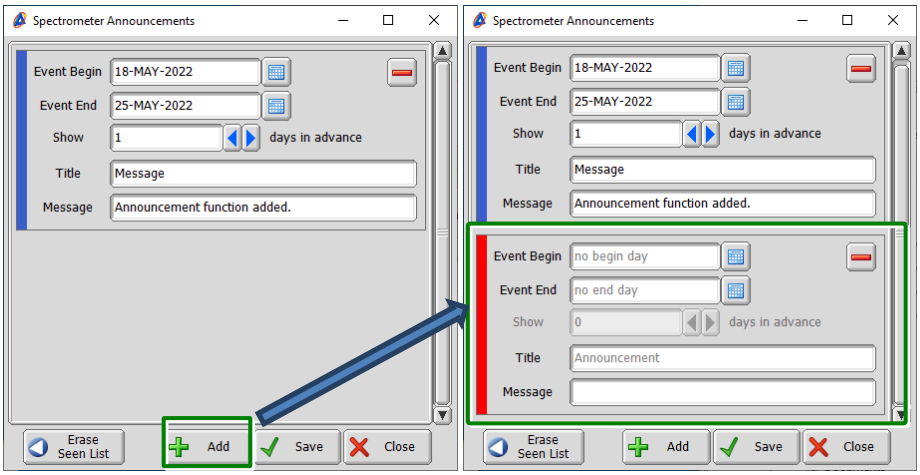

Figure 5.39 Registering multiple messages

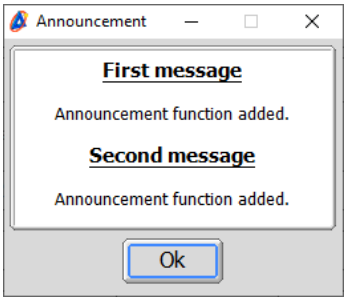

Figure 5.40 Example of multiple message announcements

When you click the **Delete** button, you can delete the registered message.

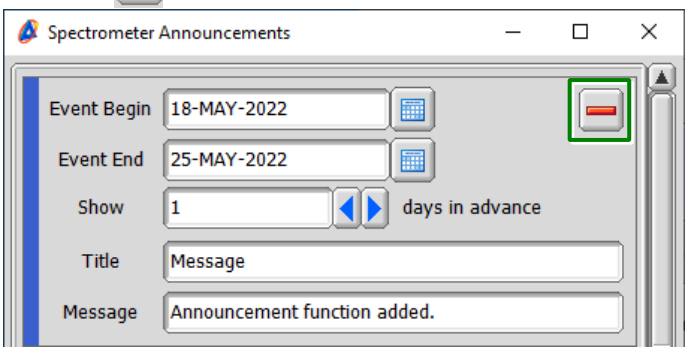

Figure 5.41 Deleting a message

5.13 Probe File Error Message Is Now Displayed

If there is a problem with the probe file, an error message is now displayed at the time of login to the Spectrometer Control window.

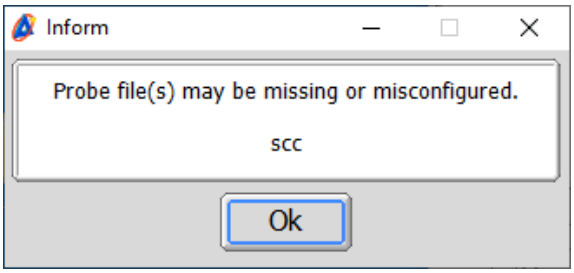

Figure 5.42 Error message at the time of login

5.14 Probe ID Displayed in the Probe Tool Window

The probe ID is now displayed in the Probe Tool window.

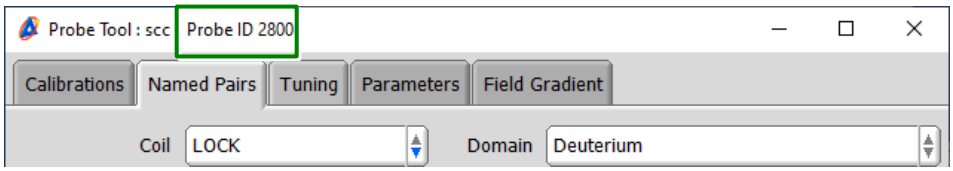

Figure 5.43 Probe ID in the Probe Tool window

5.15 Automatic Control of MASCONT Cooling and VT Ports

- The cooling port now opens and closes automatically when you insert and remove the solid and FGMAS probes.
- If VT air is supplied from the MASCONT, the VT port now opens and closes automatically when you start and stop VT measurement. Removing the probe closes the VT port automatically.
- The Set_State_MAS method has been added to Utilities.jaf. This method enables control of the spin and VT.

To use these functions, MASCONT F/W version 1.11 or later is required.

5.16 Support for V3000 Format Molfiles

Support for molfiles in V3000 format has been added.

5.17 Added a Function to Show/Hide Sample Information to the Jobs Menu

A function has been added to the **Jobs** menu in the Spectrometer Control window to show or hide sample information.

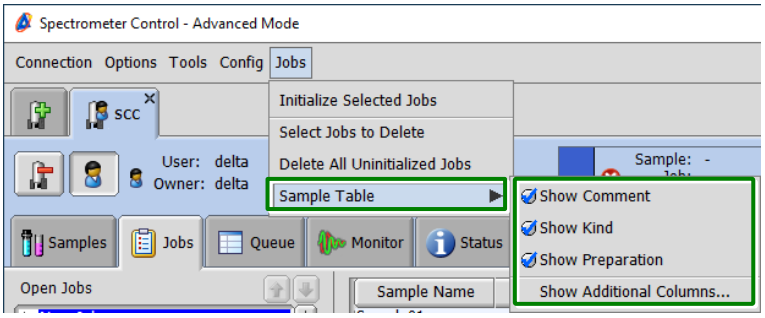

Figure 5.44 Sample Table on the Jobs menu

Selecting or clearing **Show Comment**, **Show kind**, and **Show Preparation** shows or hides the appropriate parameters.

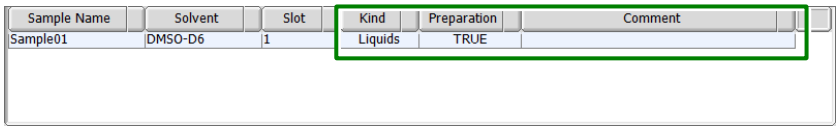

Figure 5.45 Sample information that can be shown or hidden

Selecting **Show Additional Columns** displays the Set Sample Table Columns for Jobs window, where you can edit sample information to be displayed.

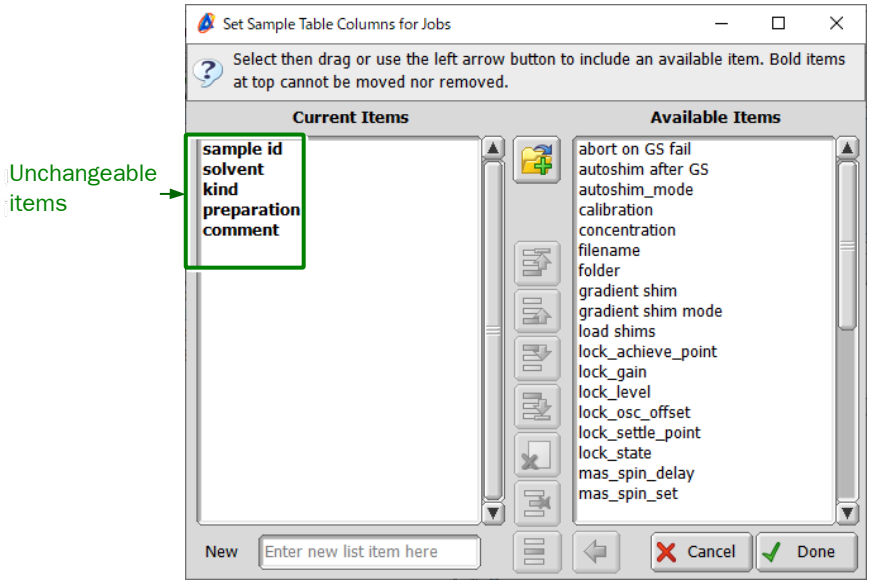

Figure 5.46 Set Sample Table Columns for Jobs window

You can move items from the Available Items list to the Current Items list to display them as part of sample information. You cannot hide or move the boldface items in the Current Items list.

5.18 Spectrometer Can Now Be Disconnected Using the Button on the Upper-Right Corner of the SCC Tab

A button for disconnecting the spectrometer has been added on the upper-right corner of the **SCC** tab in the Spectrometer Control window.

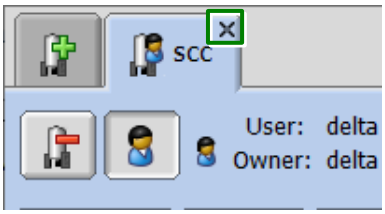

Figure 5.47 Disconnect button on the SCC tab

5.19 The mas_spin_delay Parameter Can Now Be Added From the Experiment Tool

You can now add the mas_spin_delay parameter from the **Instrument** tab in the Experiment tool.

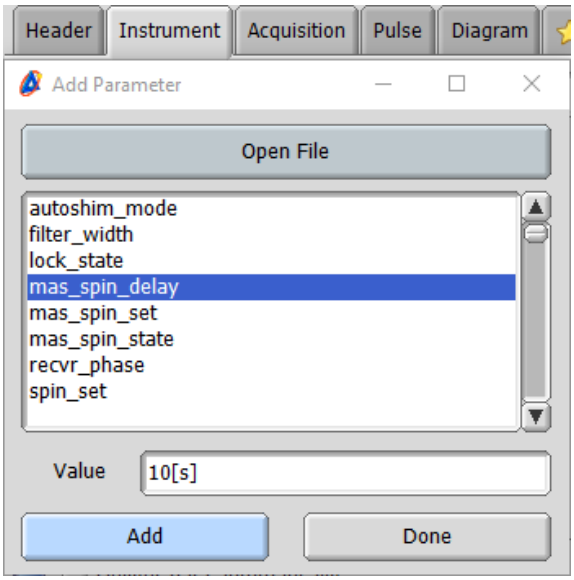

Figure 5.48 mas_spin_delay parameter

5.20 Improved the User Account Privileges Edit Function

More detailed setting of user privileges is now possible. In addition, you can now easily configure the same privilege settings for multiple users.

1. Create a user account for which you want to edit privileges.

☞ For details about creating accounts, see Section 1.3.1 “Creation of User Accounts” in “JNM-ECZ/ECZL Series ADMINISTRATOR'S MANUAL”.

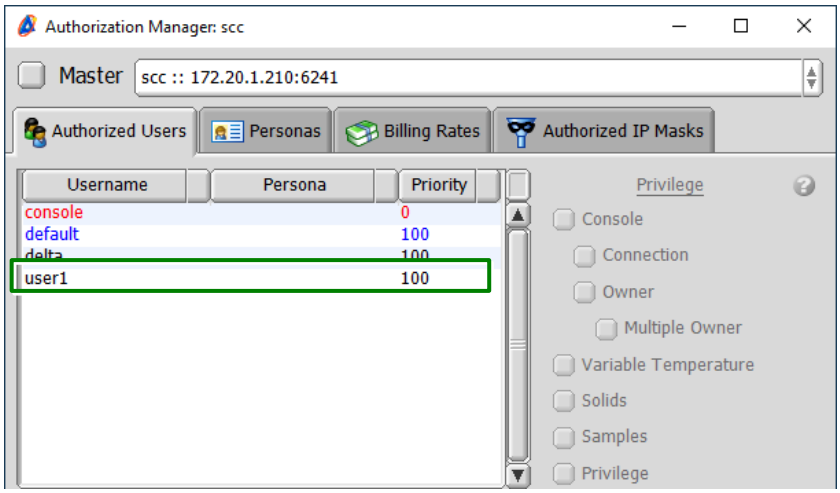

Figure 5.49 Adding a user to edit privileges

2. Select the **Personas** tab.

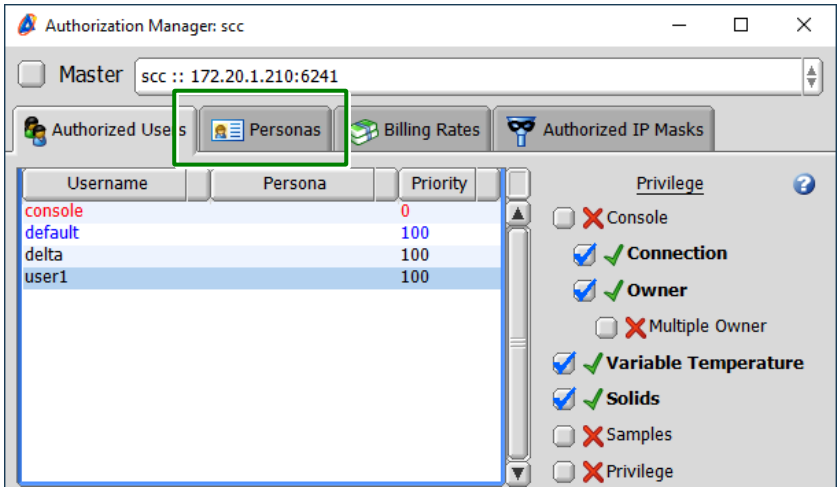

Figure 5.50 Authorization Manager window

3. Enter a desired name.

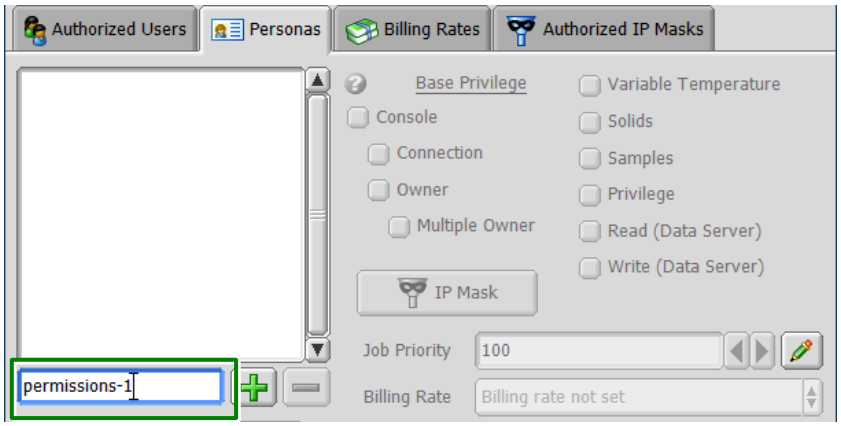

Figure 5.51 Entering persona's name

4. Configure settings for Base Privilege.

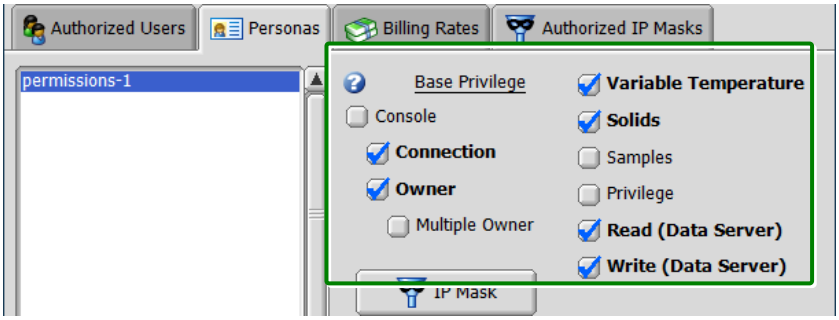

Figure 5.52 Base Privilege settings

Figure 5.52 shows the basic privilege settings for the default user. Unless you want to change privileges for the account, configure the same settings as shown in the figure.

5. Select the desired options on the **Permissions** tab.

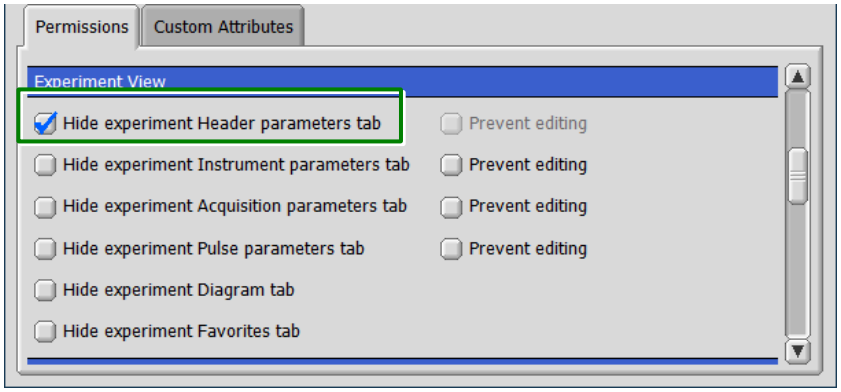

Figure 5.53 Permissions tab

For the purposes of illustration, the option on the top left is selected in Figure 5.53.

6. Select the **Authorized Users** tab.

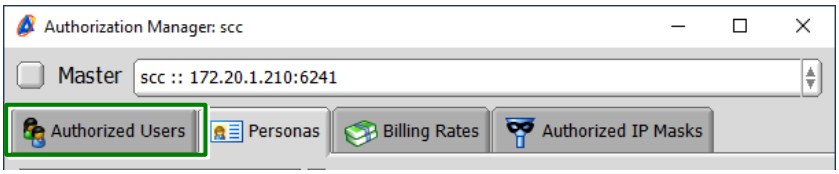

Figure 5.54 Selecting the Authorized Users tab

7. Select the name that you entered in the **Personas** tab.

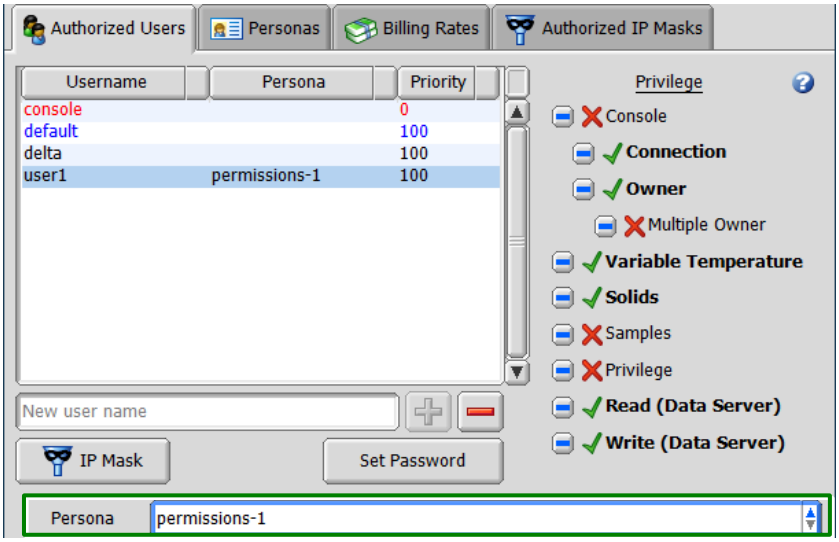

Figure 5.55 Selecting the persona

8. Close the Authorization Manager window.

When you log in as the account for which you edited privileges, the **Header** tab is hidden as configured in step 5.

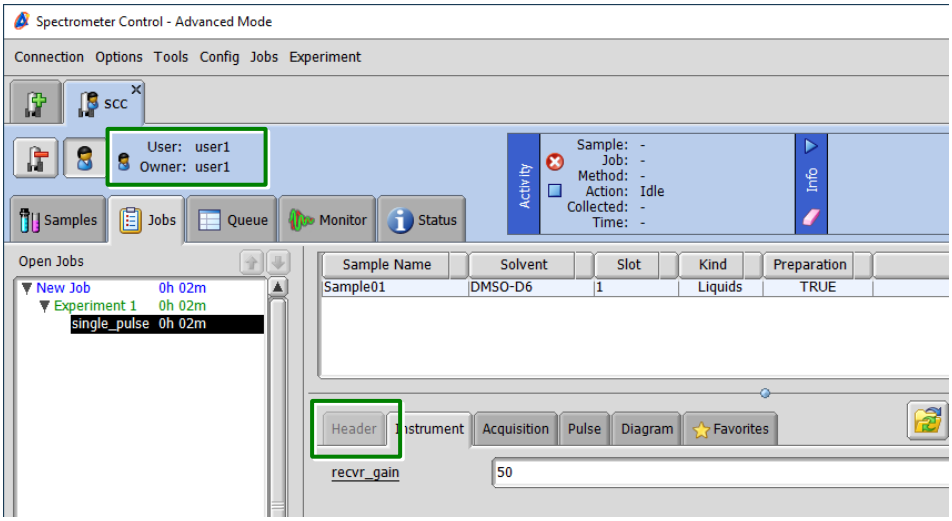

Figure 5.56 Spectrometer Control window

5.21 Updated Pulse Sequences

In Delta V6.2.0, the files below have been updated.

● Process lists

Process lists for measurement of proteins have been updated. Delta automatically determines whether data is measured with the NUS or PN method and whether the UC/SC probe is used, and adds the optimal processes.

1d_protein.list	4d_hcch.list
cbcacoconh.list	cbcacoconh_xy.list
cbcacoconh_xz.list	cbcaconh.list
cbcaconh_xy.list	cbcaconh_xz.list
cbcanh.list	cbcanh_xy.list
cbcanh_xz.list	cconh.list
cconh_xy.list	cconh_xz.list
c_edit_noesy.list	c_edit_noesy_xy.list
c_edit_noesy_xz.list	c_hsqc.list
hbhacbcaconh.list	hbhacbcaconh_xy.list
hbhacbcaconh_xz.list	hcch.list
hcch_xa.list	hcch_xy.list
hcch_xz.list	hcconh.list
hcconh_xy.list	hcconh_xz.list
hnca.list	hncacb.list
hncacb_xy.list	hncacb_xz.list
hncaco.list	hncaco_xy.list
hncaco_xz.list	hnca_xy.list
hnca_xz.list	hnco.list
hncoca.list	hncoca_xy.list
hncoca_xz.list	hncoco.list
hncoco_xy.list	hncoco_xz.list
hnco_xy.list	hnco_xz.list
n_edit_noesy.list	n_edit_noesy_xy.list
n_edit_noesy_xz.list	n_hsqc.list

● Probe file

5 mm FG/HCN probe

5.22 Corrected Gamma Values

Gamma values of aluminum 27, ruthenium 99, and ruthenium 101 have been corrected.

5.23 Location Where the Data Currently Being Measured Is Saved

When you click the **Copy Vector** button on the **Monitor** tab in the Spectrometer Control window, the data currently being measured is saved in the “copy” folder.

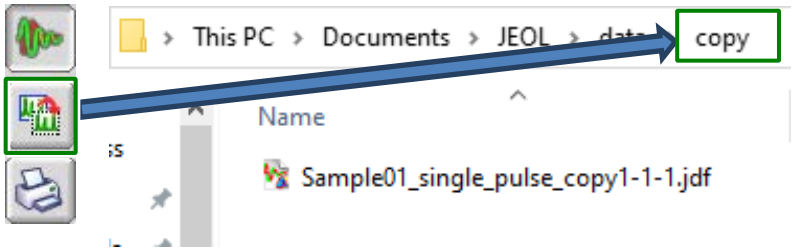

Figure 5.57 Saving location of data currently being measured

If you have set the “project” parameter in the Job Parameters, the “copy” folder is created under your project folder, and the data currently being measured is saved in the “copy” folder.

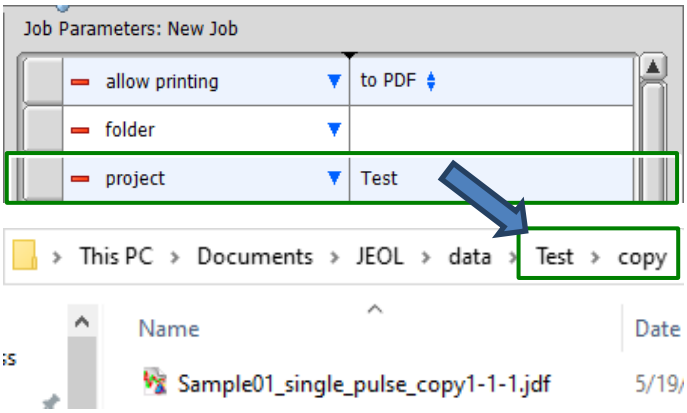

Figure 5.58 “copy” folder under the project folder

5.24 Added a Function to Adjust the Overlaid Data Position

A function has been added to the **Options** menu in the Data Slate window to adjust the position of overlaid data using the offset bars.

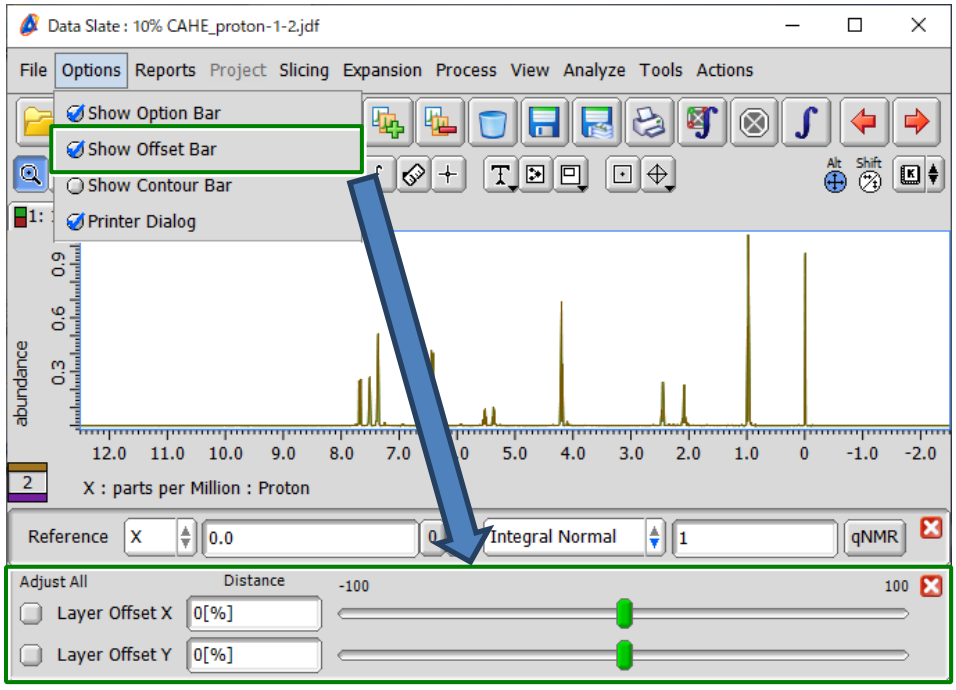

Figure 5.59 Displaying offset bars

The offset bars provide the functions below.

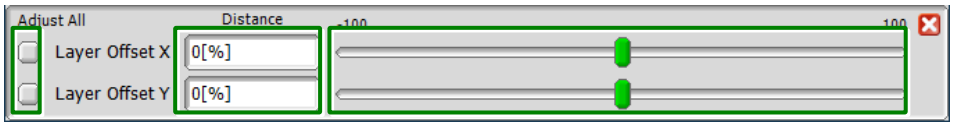

Figure 5.60 Functions of offset bars

- Adjust All: The position of all overlaid data can be adjusted.
- Distance: You can enter the distance for adjustment.
- Sliders: You can move the thumbs left and right to adjust the position.

5.25 Added Functions to Click the ALT and SHIFT buttons

Functions have been added to click the **ALT** and **SHIFT** buttons.
While selecting these buttons, you can access extended functions without pressing the Alt or Shift keys.

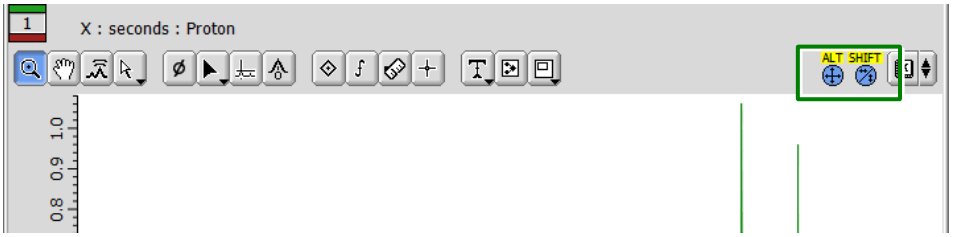

Figure 5.61 ALT and SHIFT buttons

5.26 Three or More Dimensional Slice Data Can Now Be Saved

You can now save three or more dimensional slice data.

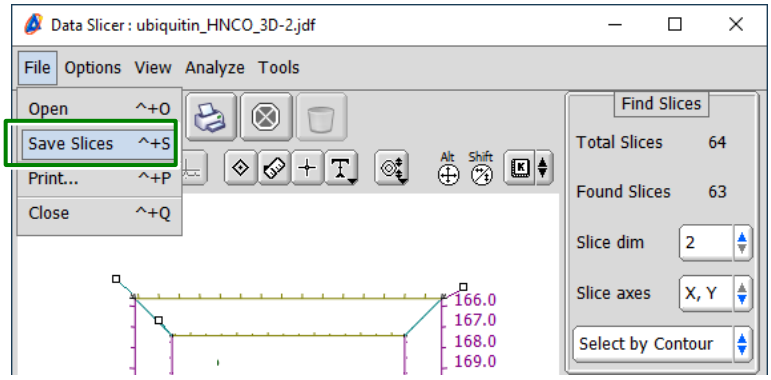

Figure 5.62 Three or more dimensional slice data

5.27 Data Is Automatically Applied to the S/N Calculator Tool

When you start the Signal to Noise Calculator tool from the data viewer, data is now automatically applied to the tool.

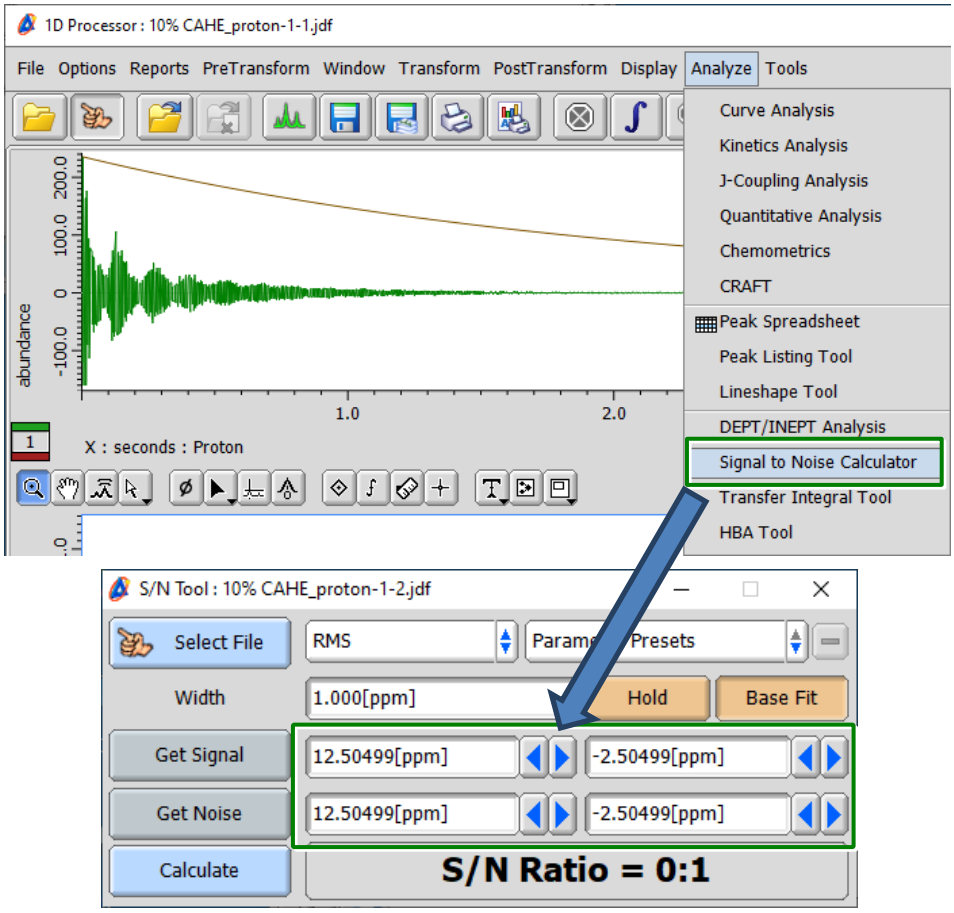

Figure 5.63 Automatically applying data to the Signal to Noise Calculator tool

6 BUG FIXES

The bug fixes supported by Delta V6.2.0 are as follows.

Item
Fixed an issue where an initial click and drag was disabled in the 1D and nD Processor windows
Fixed an incorrect default value on the pop-up menu in the Preferences window
Fixed an issue where the confirmation message was not displayed completely in Walkup mode
Fixed an issue where a sample name was not deleted from database after ejecting the sample in Walkup mode
Fixed an issue where the preset value changed even while pressing the **Hold** button in the Signal to Noise Calculator tool
Fixed an issue where sample name change was not applied
Fixed an issue where the name of a loading sample could be deleted
Fixed an issue with balloon helps not closing properly
Fixed an issue with measurement being aborted when registering a non-existent printer as default
Fixed an issue with the Automatic Phase process
Fixed an issue where methods were displayed in a wrong area when one with a measurement time of zero was added
Fixed an error that occurred when executing the WET Reference process
Fixed an issue with emails not being sent to CC or BCC addresses
Fixed an issue where files could not be selected from file history when the “Categorize local files” option was selected
Fixed an issue where measurement might not be performed when setting a schedule including weekends in Weekly Policies on the schedule setting menu.
Fixed an issue with character strings in menu items rotating 90°
Fixed an issue where a warning message appeared when changing the solvent for a sample with no TEMP_SET parameter
Fixed an error that occurred when loading a JSON file containing a null object
Fixed an issue that caused measurement failure when switching probes in Walkup mode
Fixed an issue where the axis of dosy data processed using SPLMOD in Delta V5.3.1 or later could not be changed to the logarithmic axis
Fixed archive data file (.jda) related issues