



Scientific Software Technologies Center

FFS Data Processor

Global analysis software in fluorescence fluctuation
spectroscopy

User Manual
(Analysis Database)

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Starting Analysis Database

Starting Analysis Database can be started via

❖ Start button on the Windows Task Bar:

✍ Go to the Programs/Correlator Data Processor/ and click the *Analysis Database* item;

✍ Choose Run and specify the path to AnalysisDB.EXE;

❖ Windows Explorer:

✍ Locate and double-click the AnalysisDB.EXE file (if you have performed a default installation, this file is located in \Program Files\SSTC\FFS Data Processor\Bin).

About Analysis Database

Analysis Database is used for economical storing and easy managing of results of analysis, which has been performed in FFS Data Processor. It provides convenient and fast way of searching and retrieving information. This software let one to get rid of a great amount of paper needed to keep information about the measurements, performed analysis as well as to avoid routine manipulation with computer files, folders, etc.

Database consists of several tables with the automatically supported relationships between them. The main features of the database are:

- fast storing of analysis results, often-used model and parameter linkage configurations (Templates) in the Database;

- convenient representation of analysis results;
- representation of templates configuration;
- extensive possibilities for searching and filtering information;
- build-in two-dimensional graphical pre-viewer of experimental and recovered characteristics and residuals;
- two-dimensional graphical pre-viewer of estimated parameters dependence
- export data to the ASCII files;
- quick deleting all records from the tables;
- packing tables (reduces size of the tables);
- checking and repairing the tables;
- generating and printing user-defined reports on the base of the selected records.

Database supports data integrity and validity. All information concerning the defined object is stored in one record in table. The mechanism of data integrity forbids deleting a record from one table which is linked to the records in the other tables. Data validity guarantees that values stored in the tables are always valid by the checking of the range and type of the entered data. Database is protected from the accidental changing or deleting of information by the default forbidding of editing.

Database avoids data redundancy: each record has only one instance. It means that it is not required to enter information into the tables, if the same information is already stored in the database. User can just establish the relation between the entered and stored information. This feature is especially useful when one needs to update records in the database. The correction should be done only once at one point (where the changed information is stored) and then this update will take effect in all records which are related to the selected one.

Database provides extensive possibilities for searching information. The fastest way how to find a record by a specific field is by typing first symbols of this field in a special window. Cursor moves to the record with the field, which contains symbols matching the typed ones. The possibility to sort any table by any field is also supported.

User may also interactively create filter with complex conditions in order to decrease the selected number of records.

Such operations as looking through the records, deleting records, editing information are provided by [Database Navigator](#).

Menu

Main menu consists of the following several popup items:

Items	Description
File	Contains menu commands for importing/exporting data.
Find	Contains menu commands for finding information.
Sort	Contains menu commands for sorting tables.
Preview	Contains menu commands for previewing graphs of experimental and recovered characteristics and residuals, estimated parameters dependence and DataSet properties.
Reports	Contains menu commands for setting the page setup and previewing and printing automatically created reports.
Tools	Contains menu commands for communicating with FFS Data Processor, previewing of the Templates and performing some service database functions.
Help	Contains menu commands for accessing the online Help and information about the copyright.

File menu

Use commands of the **File menu** for importing/exporting a data.
The **File menu** contains the following commands:

Commands	Description
Export data	Opens Export data dialog box that allows exporting the target criterion value, parameters groups, free parameters and arrays of experimental and recovered characteristics and residuals to the text file.
Exit	Finishes the work with Analysis Database.

Find menu

Use the commands of the **Find menu** for finding information.
The **Find menu** contains the following commands:

Commands	Description
Quick Search	Displays a search box for the corresponding field. If you want to find quickly the necessary record you should type the first few characters and press Enter . In this case the application will automatically select the first record that contains at the beginning the characters, which matched the typed ones. For the Numeric, Logical and Data/Time fields you should type the whole value for the correspondent field. To close the search box, press Esc .
Filter	Opens Filter.hlpFilter dialog box that allows creating the filter that can be applied to the selected table. If this filter is applied, the only table records that correspond to the filter criteria will be displayed.
Remove All Filters	Removes the filter from all tables.

Sort menu

Use the commands of the **Sort menu** for sorting tables.
The **Sort menu** contains the following commands:

Commands	Description
Ascending	Sorts records of the table in ascending order by the selected field.
Descending	Sorts records of the table in descending order by the selected field.

Preview menu

Use the commands of the **Preview menu** for previewing graphs of experimental and recovered characteristics and residuals, estimated parameters dependence and DataSet properties.
The **Preview menu** contains the following commands:

Commands	Description
Preview Graphs	Opens Preview Window for two-dimensional preview of the experimental and recovered characteristics and residuals.
Data Set Properties	Opens Measurements Database if the Data Set is experimental one, which stored in Measurements Database, or opens Simulated Data Set Properties form if the Data Set is simulated one.
Parameters Dependence	Opens "Fit parameter vs. external parameter view" form .

Parameters vs. Analysis ID	Opens "Fit parameter vs. analysis ID view" form .
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Reports menu

Use the commands of the **Reports menu** for setting the page setup and previewing and printing automatically created reports.

The **Reports menu** contains the following commands:

Commands	Description
Page Setup	Opens Report Options dialog box and display the Report Options dialog box "Page Setup" page .
Analysis Report...	Generates and previews the Analysis Report. Opens Report Options dialog box to specify the information which will be included in to the Report and set the filter on the Analysis table for selecting the records.

Tools menu

Contains menu commands for communicating with FFS Data Processor, previewing of the Templates and performing some service database functions.

The **Tools menu** contains the following commands:

Commands	Description
Pack Tables	Reduce size of tables by releasing any free space.
Empty Analysis Tables	Deletes all records from all tables, except Templates and Custom Models tables.
Empty Templates Table	Deletes all records from the Templates table.
Empty Custom ModelsTable	Deletes all records from the Custom Models table.
Check and Repair Tables	Checks all tables and repairs them if they are corrupted.
Send to FFSDP	Sends current analysis to the FFS Data Processor.
Templates	Opens Templates form .

Help menu

Use commands of the **Help menu** to access the help and get information about the copyright.

The **Help menu** contains the following commands:

Commands	Description
Help Contents	Opens Help topic contents.
About	Displays the copyright and version number for <i>Analysis Database</i> .

Toolbar

The **Toolbar** is a row of buttons at the top of the [Main window](#) which represents application commands. Clicking one of the buttons is a quick alternative way to choose a command from the [Menu](#). Buttons on the toolbar are activated or deactivated according to the state of the application.



To find out more about the functionality of any toolbar button, click this button on the figure above.

The *Toolbar* has short Help Hints. Help Hint is the pop-up text that appears when the mouse pointer passes over a toolbar button.

Button "View Table as Datasheet" 

This button views the table as datasheet.

Button "View Table as Form" 

This button views the table as form.

Button "Send analysis to FFSDP" 

This button sends current analysis to the FFS Data Processor.

Button "Ascending Sort" 

This button sorts records of the table in ascending order by the selected field.

Button "Descending Sort" 

This button sorts records of the table in descending order by the selected field.

Button "Quick Search" 

This button displays a search box for the corresponding field. If you want to find quickly the necessary record you should type the first few characters and press **Enter**. In this case the application will automatically select the first record that contains at the beginning the characters, which matched the typed ones. For the Numeric, Logical and Data/Time fields you should type the whole value for the correspondent field. To close the search box, press **Esc**.

Button "Filter" 

This button opens Filter.hlp>mainFilter dialog box that allows creating the filter that can be applied to the selected table. If this filter is applied, the only table records that correspond to the filter criteria will be displayed.

Button "Preview" 

This button opens [Preview Window](#) for two-dimensional preview of the experimental and recovered characteristics and residuals.

Button "Help" 

This button opens Help topic contents.

Database Navigator

Such operations as moving from one record to another, deleting records and editing information are supported by the Database Navigator.



Navigator button First 

This button moves to the first record.

Navigator button Previous 

This button moves to the previous record.

Navigator button Next 

This button moves to the next record.

Navigator button Last

This button moves to the last record.

Navigator button Delete

This button deletes the current record.

Navigator button Edit

This button switches the state of the table in the edit mode. After updating information it is possible to save changes by pressing the *Post button* or cancel changes by pressing the *Cancel button*.

Navigator button Post

This button saves current record.

Navigator button Cancel

This button cancels changes.

Navigator button Refresh

This button refreshes the information in the table. Valuable in multiuser application when several users work with the Database simultaneously.

Main Window

Main Window consists of the following components:

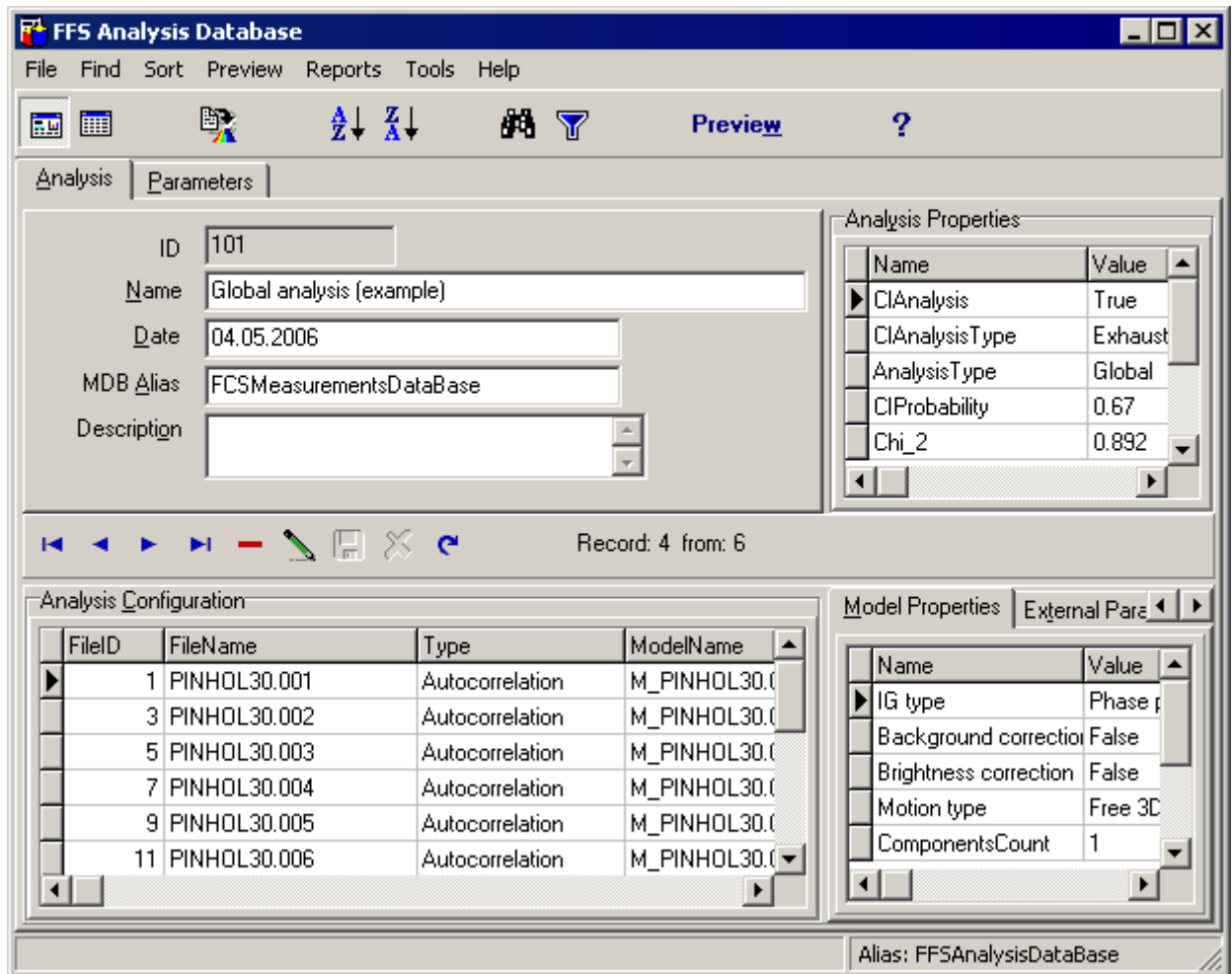
- ☞ [Menu](#)
- ☞ [Toolbar](#)
- ☞ [Analysis page](#)
- ☞ [Parameters page](#)
- ☞ *Status Bar*

An example view of the Database *Main Window* is given in the following figure:

Menu and Toolbar provide quick way to invoke the commands of the application.

Analysis and Parameters pages display all information about one particular analysis.

Status bar, which is a horizontal area in *Analysis Database* below the pages, provides information about the current state of application and any other contextual information.



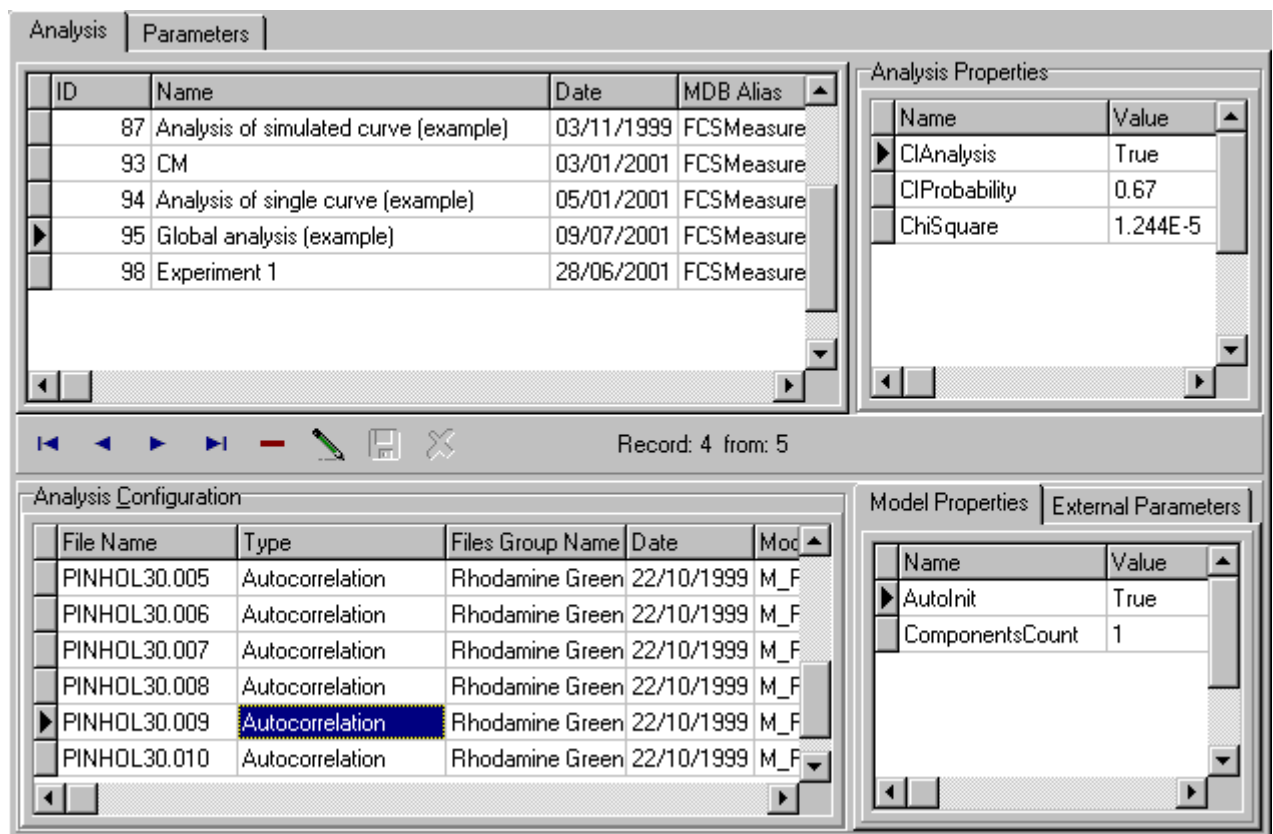
Analysis page

This page is used for viewing the configuration and properties of the analysis.

Analysis table is the main table in the Analysis Database (top left grid). If you select the record in this table you get all information about one particular analysis. Use the [Database Navigator](#) to manage the records of the Analysis table. The tables, which are depended on the Analysis table, contain properties and parameters of the analysis and configuration of the analysis. If you delete the record in the Analysis table, all records that are related to the analysis will be deleted.

Parameters, parameters groups and parameters linkage are displayed in [Parameters page](#)

An example view of the *Analysis page* is given below:



The following components are related to the *Analysis page*:

[Analysis table](#)

[Analysis Properties table](#)

[Database Navigator](#)

[Analysis Configuration table](#)

[Model Properties table](#)

[External Parameters table](#)



Click the corresponding item to get more information about it.

Parameters page

This page is used to view the settings of the estimated parameters, parameters groups and parameters linkage.

The properties and configuration of the analysis are displayed in [Analysis page](#).

An example view of the *Parameters page* is given below:

Analysis		Parameters						
Linked Parameters								
<ul style="list-style-type: none"> ⊕  Ttrip's Group ⊕  T1's Group 								
Name	Value	Minimum	Maximum	Fixed	CI Left	CI Right	CI Analysis	
Ttrip's Group	0.004833	1E-6	1	False	0.004005	0.005836	True	
T1's Group	0.05093	0.001	10	False	0.04946	0.05207	True	
Free Parameters								
Name	Value	Minimum	Maximum	Fixed	CI Left	CI Right	CI Analysis	Owner
N	1.02	0.001	100	False	-	-	False	M_PINHOL30.001 (
a	7.215	0.5	20	False	-	-	False	M_PINHOL30.001 (
F1	1	0	1	False	-	-	False	M_PINHOL30.001 (
Ftrip	0.1066	0	1	False	-	-	False	M_PINHOL30.001 (
N	1.013	0.001	100	False	-	-	False	M_PINHOL30.002 (
a	8.651	0.5	20	False	-	-	False	M_PINHOL30.002 (
F1	1	0	1	False	-	-	False	M_PINHOL30.002 (

The following components are related to the *Parameters page*:

[Linked Parameters treeview](#)

[Free Parameters table](#)

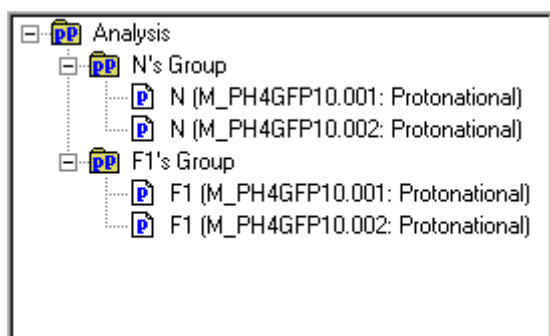
[Linked Parameters table](#)

Click the corresponding item to get more information about it.


Linked Parameters treeview

Linked Parameters treeview is used for displaying the parameters linkage.



An example view of the *Linked Parameters treeview* is given below:



Parameters groups are marked by the following icon: 

Parameters are marked by the following icon: 

The names of the parameters groups and parameters are displayed on the right of the corresponding icons.

If the current parameters group is not empty then it is supplied with a special indicator  or . Press this indicator to show or hide the parameters containing in the current parameters group.

Analysis table

[Local menu](#)

This table displays the information about the performed and stored analysis. It can be viewed as form view or datasheet view.

An example view of the *Analysis table* is given bellow:

The screenshot shows a form view of the Analysis table. The fields are as follows:

ID	95
Name	Global analysis (example)
Date	05.01.2001
MDB Alias	FCSMeasurementsDataBase
Description	

Analysis table contains the following fields:

Field Name	Description
<i>AnalysisID</i>	Contains the unique identifier of the analysis. It displays as <i>ID</i> .
<i>Name</i>	Contains the name of the analysis.
<i>AnalysisDate</i>	Contains the date when the analysis was performed and stored into the database.
<i>MDBAlias</i>	Contains the alias of the Measurements database About Measurements Database from which the experimental data were chosen
<i>Description</i>	Contains the short description of the analysis.

All actions under *Analysis table* are collected in [local menu](#).

Notes

- ✎ Field *AnalysisID* is read only.
- ✎ This table can be sorted by any field (except *Description*). To perform the sorting by the given field, select this field and press [Ascending/Descending Sort button](#) in the [Toolbar](#) or choose [Ascending/Descending menu items](#) in the local menu.
- ✎ Use [Quick Search button](#) in the [Toolbar](#) or choose [Quick Search menu items](#) in local menu for quick searching the information in the selected field.

Local menu of the Analysis table

Items	Description
<i>Delete</i>	Deletes the selected record.
<i>Edit</i>	Switches state of the table in edit mode.
<i>Post</i>	Saves current record in the Database.
<i>Cancel</i>	Cancels changes.
<i>Preview</i>	Opens Preview Window for two-dimensional preview of the experimental and recovered characteristics and residuals.
<i>Generate Report</i>	Generates the report based on the selected record.
<i>Export Data</i>	Opens Export data dialog box that allows exporting experimental and recovered characteristics and residuals to the text file.

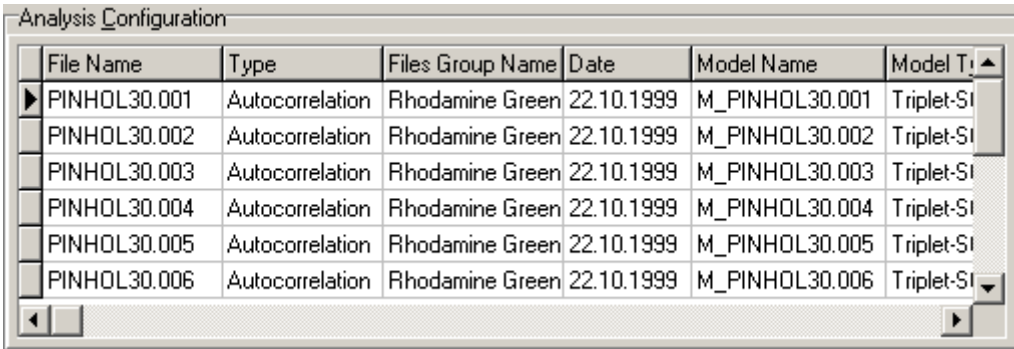
Send to FFSDP	Sends current analysis to the FFS Data Processor.
Sort	Sorts the table.
Find Record	Allows to set the filter on the table and to search the information by typing the first few characters.
View	Allows to change the view of the table.

Analysis Configuration table

[Local menu](#)

This table displays configuration of the analysis.

An example view of the *Analysis Configuration table* is given bellow:



File Name	Type	Files Group Name	Date	Model Name	Model Type
PINHOL30.001	Autocorrelation	Rhodamine Green	22.10.1999	M_PINHOL30.001	Triplet-SI
PINHOL30.002	Autocorrelation	Rhodamine Green	22.10.1999	M_PINHOL30.002	Triplet-SI
PINHOL30.003	Autocorrelation	Rhodamine Green	22.10.1999	M_PINHOL30.003	Triplet-SI
PINHOL30.004	Autocorrelation	Rhodamine Green	22.10.1999	M_PINHOL30.004	Triplet-SI
PINHOL30.005	Autocorrelation	Rhodamine Green	22.10.1999	M_PINHOL30.005	Triplet-SI
PINHOL30.006	Autocorrelation	Rhodamine Green	22.10.1999	M_PINHOL30.006	Triplet-SI

Analysis Configuration table contains the following fields:

Field Name	Description
<i>FileID</i>	Contains the ID of the record in Files table in the <i>Measurements Database</i> .
<i>File Name</i>	Contains the name of the characteristic (file) .
<i>Type</i>	Contains the type of experimental data
<i>Model Name</i>	Contains the name of the model.
<i>Model Type</i>	Contains the type of the model.
<i>Start Analysis At</i>	Contains the initial channel for the analysis.
<i>End Analysis At</i>	Contains the end channel for the analysis.
<i>Start Criterion At</i>	Contains the initial channel for the <i>Chi Square</i> calculation.
<i>NChannels</i>	Contains the total number of channels.
<i>DataSet Type</i>	Contains the type of the characteristic: Experimental or Simulated.
<i>Fit Criterion</i>	Contains the local fit criterion (Chi Square) value.
<i>Analysed</i>	Is true if the DataSet is analysed.
<i>Files Group Name</i>	Contains the Files Group name.
<i>Observ Date</i>	Contains the date of measurement.
<i>Sample Pos</i>	Contains the information about Sample position.
<i>KineticN</i>	Contains the kinetic number of the measurements.
<i>RepeatN</i>	Contains the repeat number of the measurements.

All actions under *Analysis Configuration table* are collected in [local menu](#).

Notes

✎ There are two kinds of DataSets: Experimental and Simulated. For the first one the fields **FileID**, **File Name**, **Type**, **Files Group Name**, **Observ Date**, **SamplePos**, **KineticN** and **RepeatN** are the correspondent fields from the **Measurements Database**. To find out more about it see About Measurements Database help topic. For the second one **File Name** represents the name of Simulated DataSet, **Date** is the date of simulation of this DataSet and **Files Group Name** is blank field. Simulated DataSet has also properties, which can be displayed by Data Set Properties local menu item for this aim. This menu item runs Measurements Database if the DataSet is Experimental type.

✎ The significant information (not all) from the Measurements Database are stored in the Analysis Database. The link to the Measurements Database is stored as well. It makes both Databases independent from each other. If this link is broken due to any reason (it may be export data to the another database), use the **Locate DataSet** form to locate the needed DataSet in the another Measurements Database, registered on the machine.

✎ All fields are read only.

✎ This table can be sorted by any field. To perform the sorting by the given field, select this field and press Ascending/Descending Sort button in the Toolbar or choose Ascending/Descending menu items in the local menu.

✎ Use Quick Search button in the Toolbar or choose Quick Search menu items in local menu for quick searching the information in the selected field.

Local menu of the Analysis Configuration Table

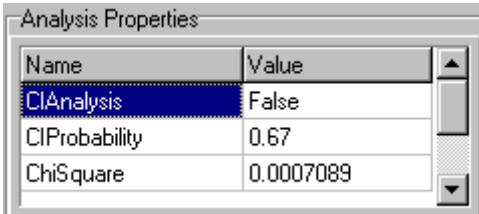
Items	Description
Locate DataSet	Opens <u>Data Set Linker form</u> Is used for linking the information stored in the Analysis Configuration table with stored one in other Measurements Database, registered on the machine. It is optional, because the significant information (not all) from Measurements Database are already stored in the Analysis Configuration table. It helps to restore the link to the Measurements Database only. It is enabled only for experimental DataSets.
Data Set Properties	Opens Measurements Database if the Data Set is experimental one, which stored in Measurements Database, or opens <u>Simulated Data Set Properties form</u> if the Data Set is simulated one.
<u>Sort</u>	Sorts the table.
<u>Find Record</u>	Allows to set the filter on the table and to search the information by typing the first few characters.

Analysis Properties table

Local menu

This table displays the properties of the current Analysis.

An example view of the **Analysis Properties table** is given bellow:



Name	Value
CIAnalysis	False
CIProbability	0.67
ChiSquare	0.0007089

Analysis Properties table contains the following fields:

Field Name	Description
<i>Name</i>	Contains the name of the property.
<i>Value</i>	Contains the value of the property.

All actions under **Analysis Properties table** are collected in [local menu](#).

Notes

- ✎ All fields are read only.
- ✎ This table can be sorted by any field. To perform the sorting by the given field, select this field and press [Ascending/Descending Sort button](#) in the [Toolbar](#) or choose [Ascending/Descending menu items](#) in the local menu.
- ✎ Use [Quick Search button](#) in the [Toolbar](#) or choose [Quick Search menu items](#) in local menu for quick searching the information in the selected field.

Local menu of the Analysis Properties Table

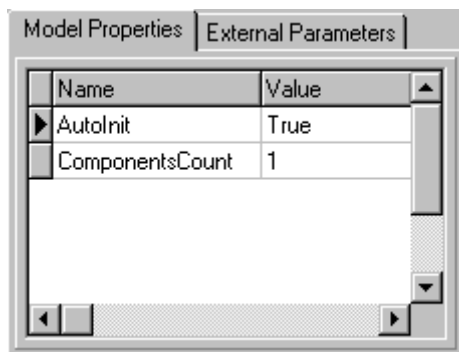
Items	Description
Sort	Sorts the table.
Find Record	Allows to set the filter on the table and to search the information by typing the first few characters.

Model Properties table

[Local menu](#)

This table displays the properties of the selected model in [Analysis Configuration table](#).

An example view of the **Model Properties table** is given bellow:



Model Properties table contains the following fields:

Field Name	Description
<i>Name</i>	Contains the name of the property.
<i>Value</i>	Contains the value of the property.

All actions under **Model Properties table** are collected in [local menu](#).

Notes

- ✎ All fields are read only.
- ✎ This table can be sorted by any field. To perform the sorting by the given field, select this field and press [Ascending/Descending Sort button](#) in the [Toolbar](#) or choose [Ascending/Descending menu items](#) in the local menu.
- ✎ Use [Quick Search button](#) in the [Toolbar](#) or choose [Quick Search menu items](#) in local menu for quick searching the information in the selected field.

Local menu of the Model Properties Table

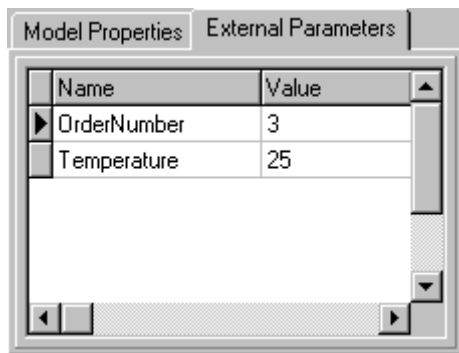
Items	Description
Configuration	Shows custom model script. (It is enabled only for Configuration property of custom model)
Sort	Sorts the table.
Find Record	Allows to set the filter on the table and to search the information by typing the first few characters.

External Parameters table

Local menu

This table displays external parameters of the selected characteristic (file) in [Analysis Configuration table](#).

An example view of the *External Parameters table* is given bellow:



External Parameters table contains the following fields:

Field Name	Description
<i>Name</i>	Contains the name of the parameter.
<i>Value</i>	Contains the value of the parameter.

All actions under *External Parameters table* are collected in [local menu](#).

Notes

- ⌘ All fields are read only.
- ⌘ This table can be sorted by any field. To perform the sorting by the given field, select this field and press [Ascending/Descending Sort button](#) in the [Toolbar](#) or choose [Ascending/Descending menu items](#) in the local menu.
- ⌘ Use [Quick Search button](#) in the [Toolbar](#) or choose [Quick Search menu items](#) in local menu for quick searching the information in the selected field.

Local menu of the External Parameters Table

Items	Description
Refresh	Refreshes data in the table.
Sort	Sorts the table.
Find Record	Allows to set the filter on the table and to search the information by typing the first few characters.

Linked Parameters table

Local menu

This table displays the settings of the parameters groups in the current analysis. An example view of the *Linked Parameters table* is given below:

	Name	Value	Minimum	Maximum	Fixed	CI Left	CI Right	CI Analysis
▶	Ttrip's Group	0.004833	1E-6	1	False	0.004005	0.005836	True
	T1's Group	0.05093	0.001	10	False	0.04946	0.05207	True

Linked Parameters table contains the following fields:

Field Name	Description
<i>Name</i>	Contains the name of the parameters group.
<i>Value</i>	Contains the value of the parameter or parameters group. This value should belong to the interval from the minimum value contained in the field <i>Minimum</i> to the maximum value contained in the field <i>Maximum</i> .
<i>Minimum</i>	Contains the minimum constraint for the value of parameter or parameters group.
<i>Maximum</i>	Contains the maximum constraint for the value of parameter or parameters group.
<i>Fixed</i>	Indicates whether the current parameter or parameters group should be fitted during the analysis. If <i>Fixed</i> is true then the value of the current parameter will be constant during the analysis, otherwise the parameter will be fitted.
<i>CI Left, CI Right</i>	Contain left and right bound of the confidence interval, which was obtained for the current parameters group if the confidence interval analysis has been performed for it.
<i>CI Analysis</i>	Indicates whether the confidence interval analysis has been performed for the current parameters group.

All actions under *Linked Parameters table* are collected in [local menu](#).

Notes

- ⚡ All fields are read only.
- ⚡ This table can be sorted by any field. To perform the sorting by the given field, select this field and press [Ascending/Descending Sort button](#) in the [Toolbar](#) or choose [Ascending/Descending menu items](#) in the local menu.
- ⚡ Use [Quick Search button](#) in the [Toolbar](#) or choose [Quick Search menu items](#) in local menu for quick searching the information in the selected field.

Local menu of the Linked Parameters Table

Items	Description
Sort	Sorts the table.
Find Record	Allows to set the filter on the table and search the information by typing the first few characters.

Free Parameters table

Local menu

This table displays the settings of the parameters related to the current analysis.

An example view of the *Free Parameters table* is given bellow:

Name	Value	Minimum	Maximum	Fixed	CI Left	CI Right	CI Analysis	Owner
N	1.02	0.001	100	False	-	-	False	M_PINHOL30.001 (Tripl
a	7.215	0.5	20	False	-	-	False	M_PINHOL30.001 (Tripl
F1	1	0	1	False	-	-	False	M_PINHOL30.001 (Tripl
Ftrip	0.1066	0	1	False	-	-	False	M_PINHOL30.001 (Tripl
N	1.013	0.001	100	False	-	-	False	M_PINHOL30.002 (Tripl
a	8.651	0.5	20	False	-	-	False	M_PINHOL30.002 (Tripl
F1	1	0	1	False	-	-	False	M_PINHOL30.002 (Tripl

Free Parameters table contains the following fields:

Field Name	Description
<i>Name</i>	Contains the name of the parameter.
<i>Value</i>	Contains the value of the parameter or parameters group. This value should belong to the interval from the minimum value contained in the field <i>Minimum</i> to the maximum value contained in the field <i>Maximum</i> .
<i>Minimum</i>	Contains the minimum constraint for the value of parameter or parameters group.
<i>Maximum</i>	Contains the maximum constraint for the value of parameter or parameters group
<i>Fixed</i>	Indicates whether the current parameter or parameters group should be fitted during the analysis. If <i>Fixed</i> is true then the value of the current parameter will be constant during the analysis, otherwise the parameter will be fitted.
<i>CI Left, CI Right</i>	Contain left and right bound of the confidence interval, which was obtained for the current parameters group if the confidence interval analysis has been performed for it.
<i>CI Analysis</i>	Indicates whether the confidence interval analysis has been performed for the current parameters group.
<i>Owner</i>	Contains the name and type of the model, to which the current parameter belongs.

All actions under *Free Parameters table* are collected in [local menu](#).

Notes

- ⌘ All fields are read only.
- ⌘ This table can be sorted by any field. To perform the sorting by the given field, select this field and press [Ascending/Descending Sort button](#) in the [Toolbar](#) or choose [Ascending/Descending menu items](#) in the local menu.
- ⌘ Use [Quick Search button](#) in the [Toolbar](#) or choose [Quick Search menu items](#) in local menu for quick searching the information in the selected field.

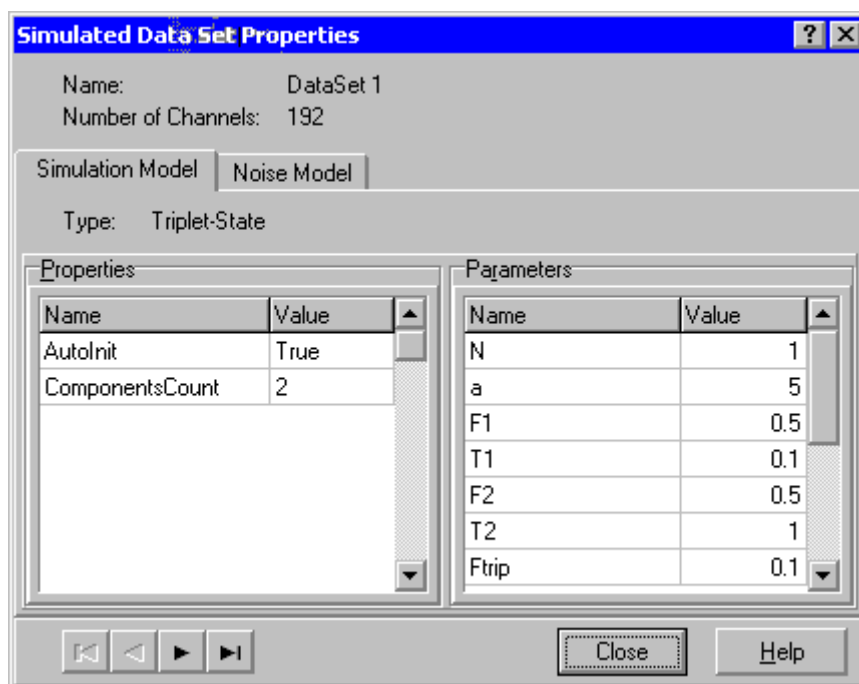
Local menu of the Free Parameters Table

Items	Description
View on Graph	Opens "Fit parameter vs. external parameter view" form.
View on Graph vs ID	Opens "Fit parameter vs. analysis ID view" form.
Sort	Sorts the table.
Find Record	Allows to set the filter on the table and to search the information by typing the first few characters.

Simulated DataSet Properties form

This form displays properties and parameters of the models used for the simulation of the DataSet.

An example view of the Simulated DataSet Properties form is given in the following figure:

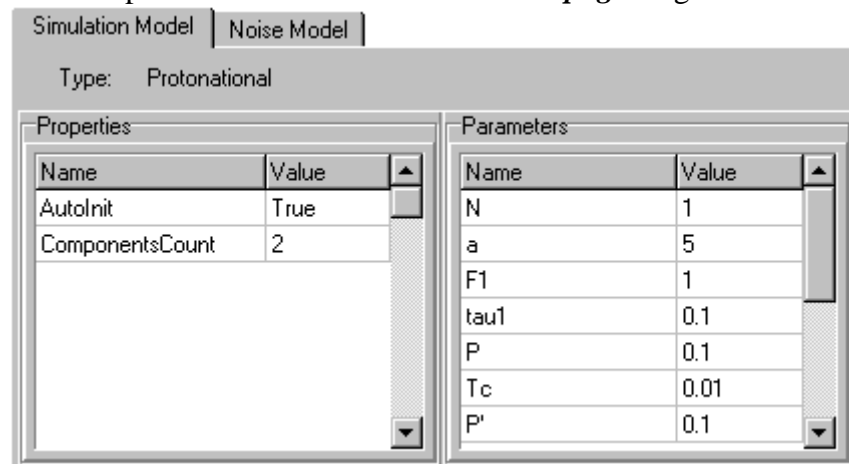


To find out more about the functionality of any component, click this component in the figure.

Simulation model page

Shows properties and parameters of the simulation model.

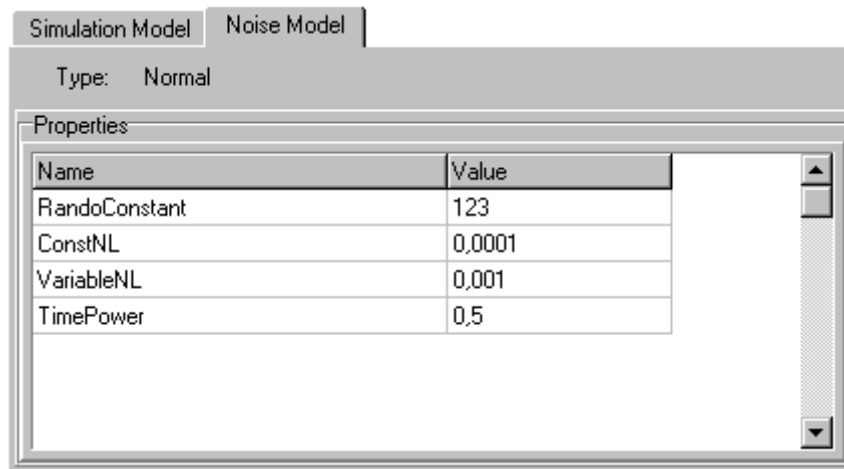
An example view of the *Simulation model page* is given in the following figure:



Noise model page

Shows properties of the noise model.

An example view of the *Noise model page* is given in the following figure:



Button "Close"

This button closes *Simulated Data Set Properties form*.

Button "Help"

This button opens the help window that describes how to work with *Simulated Data Set Properties form*.

Navigator

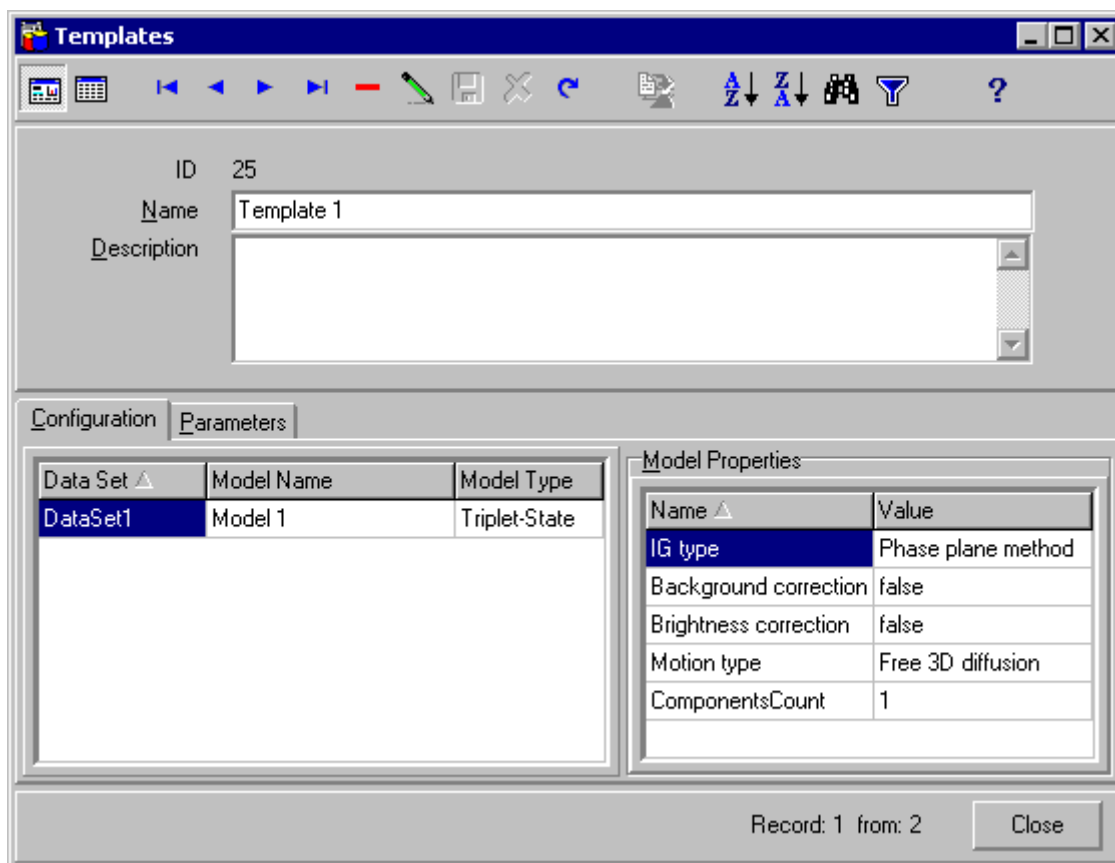


This Navigator allows to look through the Data Sets of the current analysis.

Templates form

This form is used for working with the Templates table. It displays configuration, settings and linkage of parameters of the selected template.

An example view of the *Templates form* is given in the following figure:



To find out more about the functionality of any component, click this component in the figure. All actions under Templates table are collected in the [local menu](#).

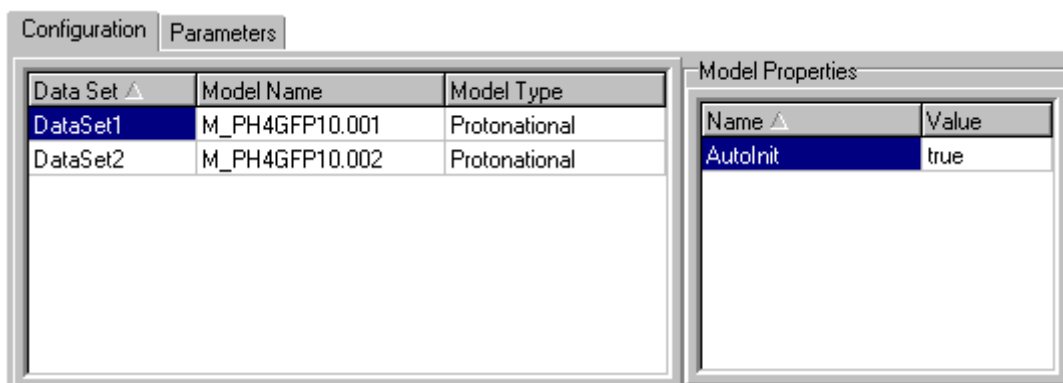
Main panel

Represents information fields from [Templates table](#). It can be viewed as a form view or datasheet view.

Configuration page

Displays configuration of the template and properties of each model.

An example view of the *Configuration page* is given in the following figure:



To find out more about the functionality of any component, click this component in the figure.

Templates table

[Local menu](#)

This table represents all fields from *Templates table*.

It can be viewed as a form view or datasheet view.

An example view of the *Templates table* is given bellow:

Templates table contains the following fields:

Field Name	Description
<i>TemplateID</i>	Contains the unique identifier (<i>ID</i>) of the template.
<i>Name</i>	Contains the name of the template.
<i>Template</i>	Contains the body of the template.
<i>Description</i>	Contains the short description of the template.

All actions under *Templates table* are collected in [local menu](#).

Notes

- ✎ Field *TemplateID* is read only.
- ✎ This table can be sorted by any field (except *Template and Description*). To perform the sorting by the given field, select this field then press [Ascending/Descending Sort button](#) in the [Toolbar](#) or choose [Ascending/Descending menu items](#) in local menu.
- ✎ Use [Quick Search button](#) in the [Toolbar](#) or choose [Quick Search menu items](#) in local menu for quick searching the information in the selected field.

Local menu of the Templates table

Items	Description
<i>Delete</i>	Deletes selected record.
<i>Edit</i>	Switches state of the table in edit mode.
<i>Post</i>	Saves current record in the Database.
<i>Cancel</i>	Cancel changes.
Sort	Sorts the table.
Find Record	Allows to set the filter on the table and to search the information by typing the first few characters.
<i>Send to FFSDP</i>	Applies the selected template in the FFS Data Processor.
View	Allows to change the view of the table.

Configuration table

This table displays configuration of the template.

An example view of the *Configuration table* is given bellow:

Data Set ▲	Model Name	Model Type
DataSet1	M_PH4GFP10.001	Protonational
DataSet2	M_PH4GFP10.002	Protonational

Configuration table contains the following fields:

Field Name	Description
Data Set	Contains the name of the Data Set, mostly with autoincrement number.
Model Name	Contains the name of the model.
Model Type	Contains the type of the model.

Notes

The parameters, that are displayed in this table, can be sorted by any field. To perform the sorting by the given field, click the header of the correspondent column. To change the sorting order, click the same header second time. A small triangle to the right of the header name shows the sort order.

Model Properties table

[Local menu](#)

This table displays properties of the selected model in **Model Properties table**. An example view of the **Model Properties table** is given bellow:

Name ▲	Value
Autolnit	true

Model Properties table contains the following fields:

Field Name	Description
Name	Contains the name of the property.
Value	Contains the value of the property.

Notes

The properties, that are displayed in this table, can be sorted by any field. To perform the sorting by the given field, click the header of the correspondent column. To change the sorting order, click the same header second time. A small triangle to the right of the header name shows the sort order.

Parameters page

Displays the linkage and settings of parameters.

An example view of the *Parameters page* is given in the following figure:

The screenshot shows a software interface with two tabs: 'Configuration' and 'Parameters'. The 'Parameters' tab is active. On the left, a tree view shows a hierarchy: 'Analysis' (with a 'PP' icon) containing 'N's Group' and 'F1's Group' (both with 'PP' icons). On the right, a table displays the following data:

Name	Value	Minimum
PP N's Group	0.934653718127141	0.001
PP F1's Group	0.976445686018203	0
P	1.20503546913252	0
tau1	0.0276358530360289	0.001
a	17.4260049589754	0.5
T'c	0.0357587066139987	1E-6
P'	1.13702520148378	0
Tc	0.0172913873278671	1E-6

To find out more about the functionality of any component, click this component in the figure.

Linked parameters treeview

Linked parameters treeview is used for displaying the parameters linkage.

An example view of the *Linked parameters treeview* is given below:

The screenshot shows a tree view under the 'Analysis' node. It contains two main groups: 'N's Group' and 'F1's Group'. Each group contains two sub-items, each with a 'P' icon and a label: 'N (M_PH4GFP10.001: Protonational)', 'N (M_PH4GFP10.002: Protonational)', 'F1 (M_PH4GFP10.001: Protonational)', and 'F1 (M_PH4GFP10.002: Protonational)'.

Parameters groups are marked by the following icon:

Parameters are marked by the following icon:

The names of the parameters groups and parameters are displayed on the right side of the corresponding icons.

If the current parameters group is not empty then it is supplied with a special indicator or . Press this indicator to show or hide the parameters containing in the current parameters group.

Parameters table

This table displays the settings of the parameters and parameters groups related to the current analysis.

An example view of the *Parameters table* is given in the following figure:

The screenshot shows a table with the following columns: Name, Value, Minimum, Maximum, Fixed, and Owner. The data is as follows:

Name	Value	Minimum	Maximum	Fixed	Owner
PP N's Group	0.934653718127141	0.001	100	False	M_PH4GFP10.001 (Protonational)
PP F1's Group	0.976445686018203	0	1	False	M_PH4GFP10.001 (Protonational)
P	1.20503546913252	0	100	False	M_PH4GFP10.002 (Protonational)
P tau1	0.0276358530360289	0.001	10	False	M_PH4GFP10.002 (Protonational)
P a	17.4260049589754	0.5	20	False	M_PH4GFP10.002 (Protonational)
P T'c	0.0357587066139987	1E-6	1	False	M_PH4GFP10.002 (Protonational)
P P'	1.13702520148378	0	100	False	M_PH4GFP10.002 (Protonational)
P Tc	0.0172913873278671	1E-6	1	False	M_PH4GFP10.002 (Protonational)
P P	1.224960113876	0	100	False	M_PH4GFP10.001 (Protonational)
P tau1	0.0203692003185356	0.001	10	False	M_PH4GFP10.001 (Protonational)
P a	14.3210197330313	0.5	20	False	M PH4GFP10.001 (Protonational)

Parameters table contains the following fields:

Field Name	Description
Name	Contains the name of the parameter or parameters group.
Value	Contains the value of the parameter or parameters group. This value should belong to the interval from the minimum value contained in the field Minimum to the maximum value contained in the field Maximum .
Minimum	Contains the minimum constraint for the value of parameter or parameters group.
Maximum	Contains the maximum constraint for the value of parameter or parameters group.
Fixed	Indicates whether the current parameter or parameters group should be fitted during the analysis. If Fixed is true then the value of the current parameter will be constant during the analysis, otherwise the parameter will be fitted.
Owner	Contains the name and type of the model, to which the current parameter belongs (for parameters only).

Notes

The parameters that are displayed in this table can be sorted by any field. To perform the sorting by the given field, click the header of the correspondent column. To change the sorting order, click the same header second time. A small triangle to the right of the header name shows the sort direction.

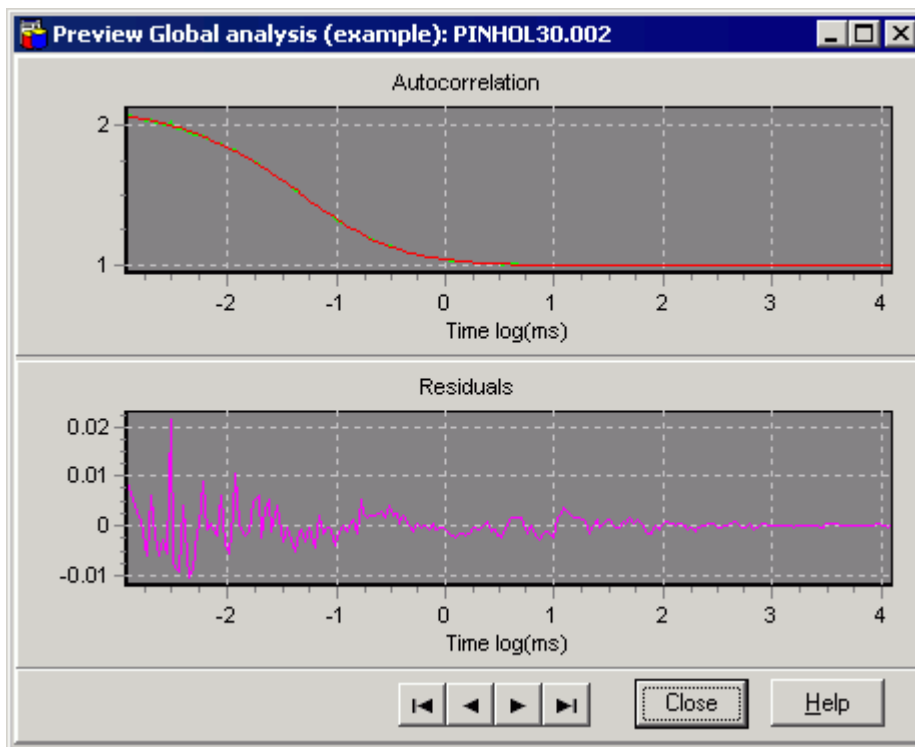
Button Close

This button closes the *Templates form*.

Preview window

This window is used for two-dimensional display of the experimental and recovered characteristics and residuals stored in the current record of the **Analysis Configuration table**. The name of the analysis and the name of the characteristic are displayed in the title of this window. The window consists of two charts: [Characteristics](#) and [Residuals](#). The dimensions displayed along the vertical and horizontal axes depend from the type of the characteristic.

An example view of the **Preview window** is given below:



Use local menu of 2D Chart for customizing the chart, export chart data to text and BMP files, save, apply and reset user defined settings.

Use [Navigator](#) in the bottom of this window to look through other characteristics participating in the current analysis.

Close button closes this window.

Help button opens the help window that describes how to work with **Preview window**.

Residuals chart

This 2D Chart is used for two-dimensional display of the residuals stored in the current record of "**Analysis Configuration**" table. The dimensions displayed along the vertical and horizontal axes depend from the type of the characteristic and including weight factors in the analysis (weighted fit).

Characteristics chart

This 2D Chart is used for two-dimensional display of the experimental and recovered characteristics stored in the current record of the "**Analysis Configuration**" table. The dimensions displayed along the vertical and horizontal axes depend from the type of the characteristic.

Button "Close"

This button closes this form.

Navigator



This Navigator allows to look through experimental and recovered characteristics and residuals.

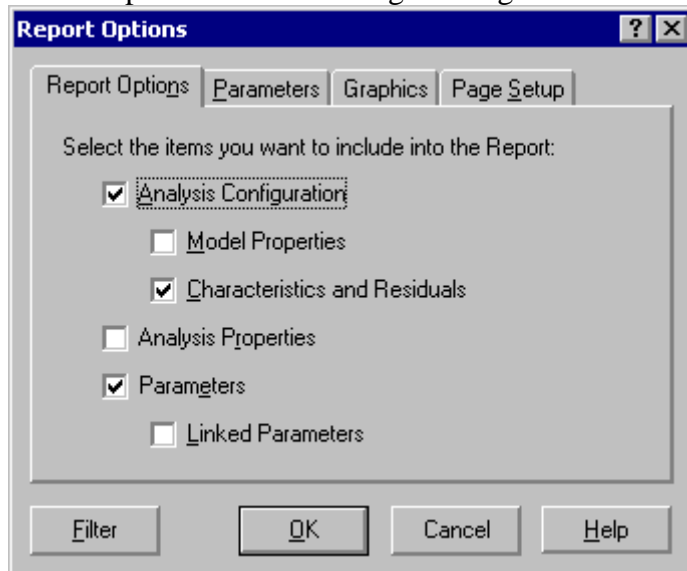
Button "Help"

Opens the help window that describes how to work with **Preview window**.

Report Options dialog box

This dialog box is used for customizing the Report and selecting records which will be included into the Report. You can specify Page Setup settings to adjust the printed area.

An example view of the dialog box is given below:



To find out more about the functionality of any component, click this component in the figure.

"Analysis Configuration" check box

Check this box if you want to include into the Report the configuration of the analysis.

"Model Properties" check box

Check this box if you want to include into the Report the properties of the models.

Model Properties check box is enabled if *Analysis Configuration check box* is checked.

Button "Ok"

This button closes the dialog box and starts creation of the report.

Button "Help"

This button opens the help window that describes how to work with **Report Options dialog box**.

Button "Cancel"

This button closes the dialog box without creation of the report.

"Characteristics and residuals" check box

Check this box if you want to include into the Report the graphs of experimental and recovered characteristics and residuals.

Characteristics and residuals check box is enabled if *Analysis Configuration check box* is checked.

"Analysis properties" check box

Check this box if you want to include into the Report the properties of the analysis.

"Parameters" check box

Check this box if you want to include the parameters and the parameters groups of the analysis into the Report. It is possible to select the parameters which will be included into the Report in the Parameters page.

"Linked Parameters" check box

Check this box if you want to include into the Report the parameters which are combined in a parameters group.

Linked Parameters check box is enabled if *Parameters check box* is checked.

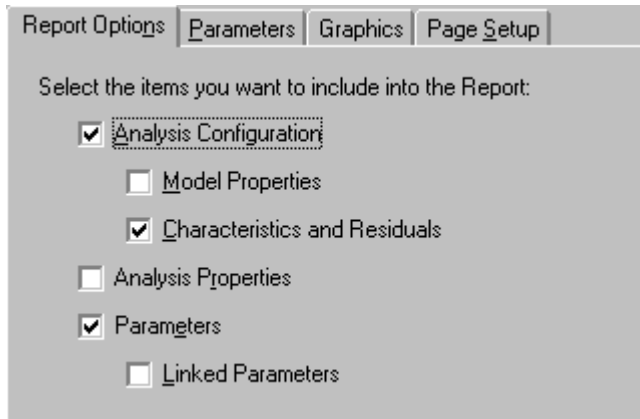
Button "Filter"

This button opens Filter.hlp>mainFilter dialog box.

"Report options" page

This page is used for customizing of the **Report**. Check or uncheck the boxes on this page for inserting the corresponding information into the Report.

An example view of the **Report options page** is given below:



Report Options Parameters Graphics Page Setup

Select the items you want to include into the Report:

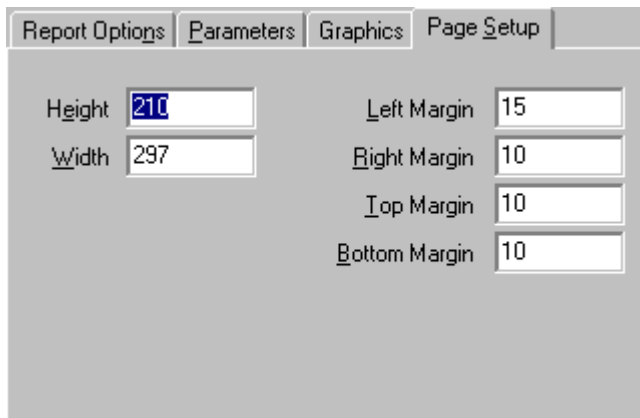
- Analysis Configuration
- Model Properties
- Characteristics and Residuals
- Analysis Properties
- Parameters
- Linked Parameters

To find out more about the functionality of any component, click this component in the figure.

"Page Setup" page

This page is used for setting paper size and paper margins for the report.

An example view of the **"Page Setup" page** is given below:



Report Options Parameters Graphics Page Setup

Height

Width

Left Margin

Right Margin

Top Margin

Bottom Margin

To find out more about the functionality of any component, click this component in the figure.

Enter **Height** of your paper here.

Enter **Width** of your paper here.

Enter the distance you want between the left edge of the page and the left edge of unindented lines.

Enter the distance you want between the right edge of the page and the right end of the line with no right indent.

Enter the distance you want between the top of the page and the top of the first line of the page.

Enter the distance you want between the bottom of the page and the bottom of the last line of the page.

"Parameters" page

This page is used for customizing of the **Report**. Check or uncheck the boxes on this page for inserting the corresponding parameter into the Report.

An example view of the **"Parameters" page** is given below:

Name	Show
F1	<input checked="" type="checkbox"/>
F2	<input checked="" type="checkbox"/>
Ftrip	<input checked="" type="checkbox"/>
N	<input checked="" type="checkbox"/>
T1	<input checked="" type="checkbox"/>
T2	<input checked="" type="checkbox"/>
Ttrip	<input checked="" type="checkbox"/>
a	<input checked="" type="checkbox"/>

"Graphics" page

This page is used for setting paper size and paper margins for the report.

An example view of the **"Graphics" page** is given below:

Report Options	Parameters	Graphics	Page Setup
<p>Color</p> <p><input checked="" type="radio"/> Black and White</p> <p><input type="radio"/> Colored</p>			
<p>X axis</p> <p><input checked="" type="radio"/> Auto</p> <p><input type="radio"/> Linear</p> <p><input type="radio"/> Logarithmic</p>		<p>Y axis</p> <p><input checked="" type="radio"/> Auto</p> <p><input type="radio"/> Linear</p> <p><input type="radio"/> Logarithmic</p>	

To find out more about the functionality of any component, click this component in the figure.

"Y axis" radio group

Is used for setting Y axis labels format. The labels format depends on type of the characteristic if "Auto" is checked.

"X axis" radio group

Is used for setting X axis labels format. The labels format depends on type of the characteristic if "Auto" is checked.

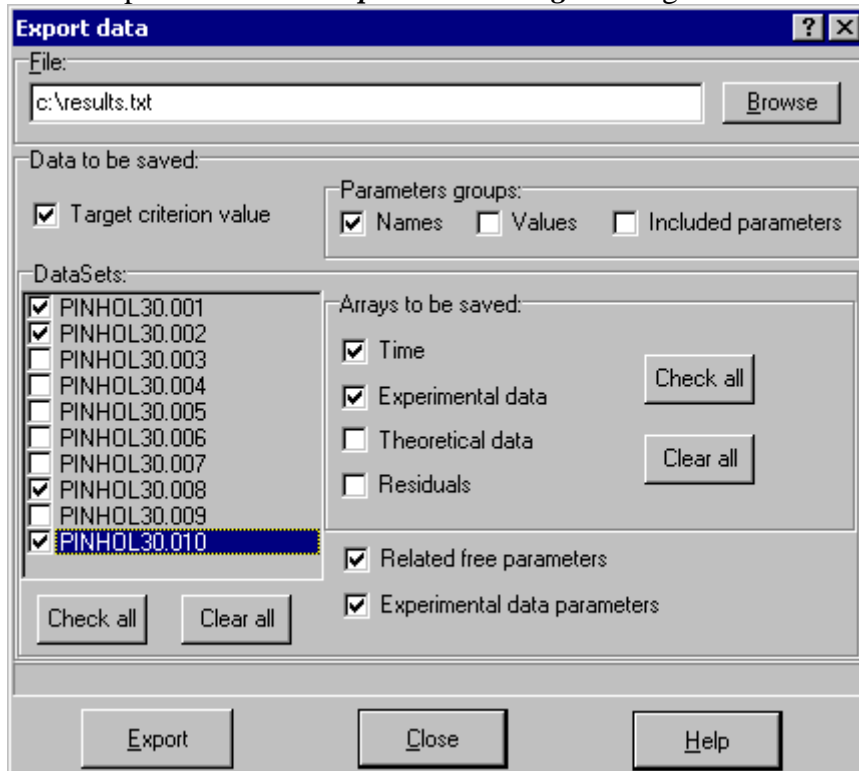
"Color" radio group

Is used for graph customizing.

Export data dialog box

This dialog box is used to export values of the target criterion, parameters groups and free parameters as well as arrays of experimental and recovered characteristics and residuals to the text file.

An example view of the *Export data dialog box* is given below:



To find out more about the functionality of any component, click this component on the figure.

"File" edit

This box contains the name of the file where experiment data will be exported.

Button "Browse"

This button displays the standard Windows Open dialog box in which the path and the name of the file can be chosen.

"Target criterion value" check box

If this check box is checked, the target criterion value will be exported.

"Related free parameters" check box

If this check box is checked, the information about unlinked parameters related to each data set selected in the *Data Sets list* will be exported.

"Experimental data parameters" check box

If this check box is checked, the additional information (DataSet Type, Observation Date, Sample position and others) will be exported.

"Data Sets" list

This list is used to choose the *Data Sets*, the data will be exported from.

Button "Check All"

This button selects all data sets in the *Data Sets list*.

Button "Clear All"

This button unselects all data sets in the *Data Sets list*.

"Parameters groups" group box

This group box provides a possibility to export the data related to parameters groups.

The following information about the parameters groups can be exported:

- ☒ Names
- ☒ Values
- ☒ Included parameters

"Arrays to be saved group" box

This group box is used to choose the arrays of values to be saved. Check the corresponding check box to export the array.

The following arrays of values are available for the export:

- ☒ Time -- time scale
- ☒ Experimental data -- measured or simulated data
- ☒ Theoretical data -- the data calculated with chosen theoretical model
- ☒ Residuals

Button "Export"

This button executes the export procedure.

Button "Help"

This button opens the help window that describes how to work with *Export data dialog box*.

Button "Close"

This button finishes work with *Export data dialog box*.

DataSet Linker form

Is used for linking the information stored in the Analysis Configuration table with stored one in other Measurements Database, registered on the machine. It is optional, because the significant information (not all) from Measurements Database are already stored in the Analysis Configuration table. It helps to restore the link to the Measurements Database only. An example view of the *DataSet Linker form* is given below:

Databases		
Name	DB Type	Path
BCDEMOS	STANDARD	C:\Program Files\Common Files\Borland Shared
IBLocal	INTRBASE	
DefaultDD	STANDARD	C:\Program Files\Common Files\Borland Shared
FSCAnalysisDataBase	STANDARD	D:\FcsDB\D\Tables
FCSMeasurementsDatabase	STANDARD	C:\Program Files\SSTC\FCS Data Processor\D.

Files Group		
ID	Name	Date
1	Rhodamine Green	22/10/1999

Files		
ID	File Name	Type
1	PINHOL30.001	Autocorrelatic
2	PINHOL30.001	Intensity
3	PINHOL30.002	Autocorrelatic
4	PINHOL30.002	Intensity
5	PINHOL30.003	Autocorrelatic

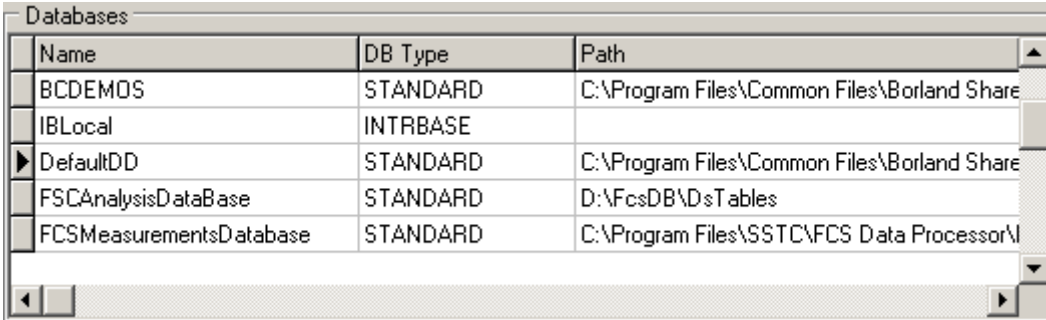
The following components are related to the *DataSet Linker form*:

[Databases table](#)
[Files Group table](#)
[Files table](#)

Click the corresponding item to get more information about it.

Databases table

Lists all [BDE Aliases](#), registered on the machine.
 An example view of the *Databases table* is given bellow:



Name	DB Type	Path
BCDEMOS	STANDARD	C:\Program Files\Common Files\Borland Share
IBLocal	INTRBASE	
DefaultDD	STANDARD	C:\Program Files\Common Files\Borland Share
FSCAnalysisDataBase	STANDARD	D:\FcsDB\DsTables
FCSMeasurementsDatabase	STANDARD	C:\Program Files\SSTC\FCS Data Processor\

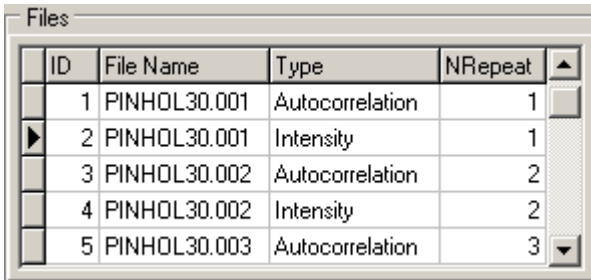
Databases table contains the following fields:

Field name	Description
<i>Name</i>	Name of the database
<i>DB Type</i>	Type of the database
<i>Path</i>	Path

Files table

[Local menu](#)

Represents the characteristics (files), related to the selected Files Group.
 An example view of the *Files table* is given bellow:



ID	File Name	Type	NRepeat
1	PINHOL30.001	Autocorrelation	1
2	PINHOL30.001	Intensity	1
3	PINHOL30.002	Autocorrelation	2
4	PINHOL30.002	Intensity	2
5	PINHOL30.003	Autocorrelation	3

Files table contains the following fields:

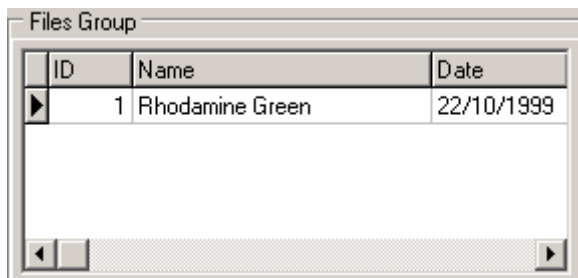
Field name	Description
<i>ID</i>	Identifies of the record
<i>File Name</i>	Name of the file
<i>Type</i>	Type of data
<i>NRepeat</i>	Repeat number

Files Group table

Local menu

Represents the File Groups stored in the selected Database.

An example view of the *Files Group table* is given bellow:



ID	Name	Date
1	Rhodamine Green	22/10/1999

Files Group table contains the following fields:

Field name	Description
<i>ID</i>	Identifies of the record
<i>Name</i>	Name of the files group
<i>Date</i>	Date of measurements

Button "Ok"

This button closes the Data Set Linker form and replaces file information (ID) in the [Analysis Configuration table](#) with the selected one.

Button "Cancel"

This button finishes work with *Data Set Linker form* without any changes.

Button "Help"

This button opens the help window that describes how to work with **Data Set Linker form**.

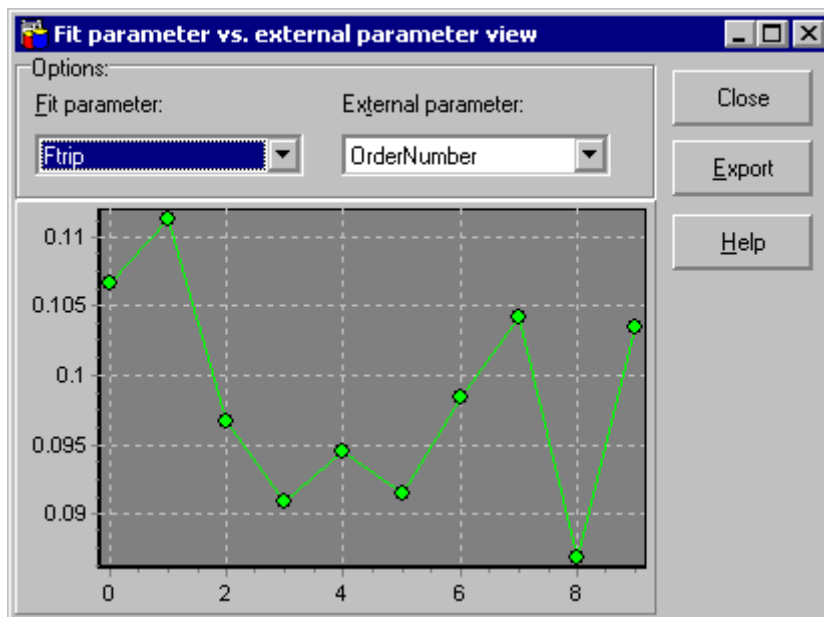
Local menu of the Data Set Linker

Items	Description
Refresh	Refreshes data in the table.
Sort	Sorts the table.
Find Record	Allows to set the filter on the table and to search the information by typing the first few characters.

"Fit parameter vs. external parameter view" form

This window displays the dependence of the value of the given fit parameter on the external parameter.

An example of the "**Fit parameter vs. external parameter view**" form is given on the following figure:



To find out more about the functionality of any component, click this component on the figure.

Fit parameter combobox list

This combobox list is used to chose fit parameter to be displayed on the graph.

External parameter combobox list

This combobox list is used to chose external parameter.

Button "Help"

This button opens the help window that describes how to work with "**Fit parameter vs. external parameter view**" form.

Button "Close"

This button closes the "**Fit parameter vs. external parameter view**" form.

Button "Export"

This button exports graph data to text file.

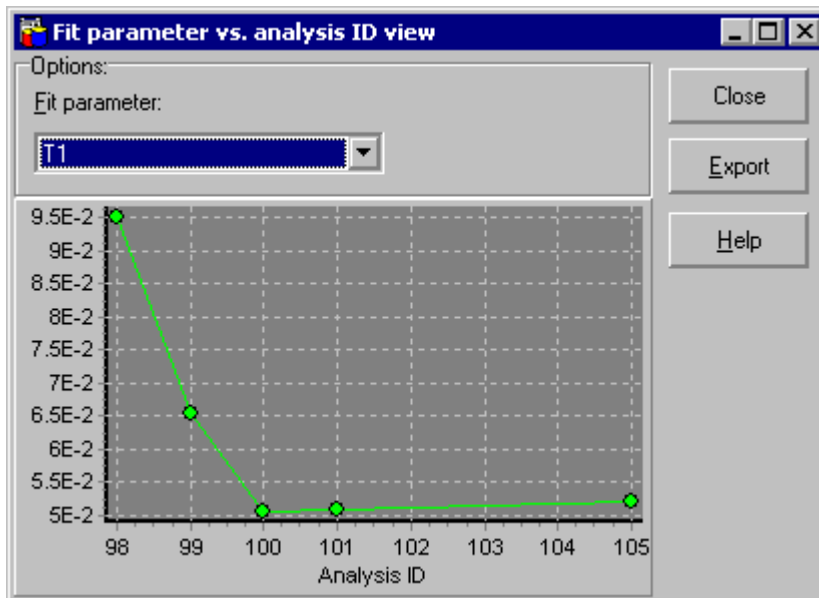
2D Chart

This 2D Chart displays the Fit parameter vs. data set number curve. The values of the fit parameters which have the name selected in the **Fit parameter combobox** are displayed along the vertical axis and external parameter value is displayed along the horizontal axis.

"Fit parameter vs. analysis ID view" form

This window displays the dependence of the value of the given fit parameter on analysis ID.

An example of the "**Fit parameter vs. analysis ID view**" form is given on the following figure:



To find out more about the functionality of any component, click this component on the figure.

Button "Help"

This button opens the help window that describes how to work with "Fit parameter vs. analysis ID view" form.

Button "Close"

This button closes the "Fit parameter vs. analysis ID view" form.

2D Chart

This 2D Chart displays the Fit parameter vs. analysis ID curve. The values of the fit parameters which have the name selected in the **Fit parameter combobox** are displayed along the vertical axis and analysis ID value is displayed along the horizontal axis.

An alias is a name and a set of parameters that describe a database resource. BDE applications use aliases to connect with databases.

Local menus of tables

View Menu

Allows to change the view of the table.

Items	Description
<i>View As Form</i>	Displays the table as Form.
<i>View As Datasheet</i>	Displays the table as Datasheet.

Sort Menu

Sorts the table.

Items	Description
<i>Ascending</i>	Sorts records of the table in ascending order by the selected field.
<i>Descending</i>	Sorts records of the table in descending order by the selected field.

Find Record Menu

Allows to set the filter on the table and to search the information by typing the first few characters.

Items	Description
<i>Quick Search</i>	Displays a search box for the corresponding field. If you want to find quickly the necessary record you should type the first few characters and press Enter. In this case the application will automatically select the first record that contains at the beginning the characters, which matched the typed ones. For the Numeric, Logical and Data/Time fields you should type the whole value for the correspondent field. To close the search box, press Esc.
<i>Filter</i>	Opens Filter.hlp>mainFilter dialog box that allows creating the filter that can be applied to the selected table. If this filter is applied, the only table records that correspond to the filter criteria will be displayed.
<i>Remove Filter</i>	Removes the filter from the table.