BornAgain - Feature #1653

Outcome of BornAgain user meetings in November

20 Nov 2016 13:55 - pospelov

Status:	Resolved		**Start date:**	20 Nov 2016
Priority:	Normal		**Due date:**	
Assignee:			**% Done:**	0%
Category:			**Estimated time:**	0.00 hour
Target version:	Sprint 33			

Description

Given issue contains a collection of user requests, observations discovered during Hamburg/Munich BornAgain tutorials in November. We can collect them here, discuss priorities and then form the list of normal issues.

Issues reported by the users.

Provide a way to save fitted image into the file.

In FitView there is no any button (or right mouse click action) to save fitted image into the file.

Implement platform independent crash handler.

There were quite some number of GUI's crashes (about 10-20 per 8 hours of tutorials). Our observation, is that users do not complain even in the course of tutorial and simply restart the application. The crash handler is required to show the stack trace and provide the button "Send report".

Implement "Restore unsaved project" in the case of crashed GUI.

The simplest possibility is to save the project every few minutes into Untitled.pro.back file.

Provide unddo/redo functionality.

This can be done first for sample construction. I think that we have to implement the full fledged "Command" pattern. This is not that complicated, since amount of actions we do with the model is not that high.

Commands: InsertItem, RemoveItem, SetItemProperty.
Every command will keep the pointer to the subject (SessionItem, the QVariant to change) and provide unddo functionality.

Improve drag-and-drop construction of a MultiLayer.

Many users have been experiencing problems while dropping Layer on top of a MultiLayer. It will be already good to increase size of areas around a MultiLayer, were such drop is allowed.

Provide the way to set external boolean map with masks to the detector plane.

User might already have a 2D map of booleans with masked detector channels.

Issues discovered during tutorial preparation.

plot_utils.py doesn't work from ipython notebook

ba.plot_intensity_data(result) doesn't generate any embedded image when used from ipython notebook

~~Revise IParameterized::printParameters and similar.~~

Item [#1562](#1562)

~~Provide ISample with possibility to export parameter tree in Python dictionary~~

Item [#1562](#1562)

Improve MinimizerCatalogue::toString

While preparing advanced fitting tutorial realized that the existing MinimizerCatalogue::toString provide too little information. It contains only the list of minimizers, but not the list of their available options.

Get rid of SampleBuilder's "addressof"

Become new item [#1675](#).

Implement FitSuite::printParameters (or ::parametersToString.)

Now GISASSimulation::printParameters() reports parameter names which are different from what FitSuite has.

example step4_sample_builder.py

GISASSimulation::printParameters()
'/GISASSimulation/Instrument/Beam/Intensity':0
'/GISASSimulation/Instrument/Beam/Wavelength':0.1
'/GISASSimulation/Instrument/Beam/InclinationAngle':0.00349066
'/GISASSimulation/Instrument/Beam/AzimuthalAngle':0
'/GISASSimulation/SampleBuilder/length_parameter':5
'/GISASSimulation/SampleBuilder/decay_length':10

attempt to add fit parameter with the name "/GISASSimulation/SampleBuilder/length_parameter" leads to exception,
saying that following list is available:
'/FitSuiteObjects/FitObject/GISASSimulation/Instrument/Beam/Intensity'
'/FitSuiteObjects/FitObject/GISASSimulation/Instrument/Beam/Wavelength'
'/FitSuiteObjects/FitObject/GISASSimulation/Instrument/Beam/InclinationAngle'
'/FitSuiteObjects/FitObject/GISASSimulation/Instrument/Beam/AzimuthalAngle'
'/FitSuiteObjects/FitObject/GISASSimulation/SampleBuilder/length_parameter'
'/FitSuiteObjects/FitObject/GISASSimulation/SampleBuilder/decay_length'

Do we need all these prefixes?

Import MD data

Provide a way to easily translate 3d data (containing sld at each point) into a sample description

Provide extended print output for fit parameters during iterations.

Artur pointed out, that we do not have a way to see how many sample parameters are steered by given fit parameter.
Related to [#1478](#) too.

GUI: provide convenient way to set min,max for relative difference map.

And probably all other properties of plot on FitView

GUI: multiple crashes

RunFit button stopped to work. The rest was working.

Python fitting

If no fit parameters are defined, it crashes. On Windows, it does this without any clear message. So we need to provide some clear feedback when this happens and exit gracefully.

Revise chi squared module

Provide examples/functional tests to create custom chi2 module from python. Provide log10, sqrt amplitude function in GUI.
Implement showing of chi2 in GUI (kind of dedicated Chi2PresenterMinimizer).

History

#1 - 20 Nov 2016 16:42 - pospelov

- Description updated

#2 - 20 Nov 2016 18:18 - pospelov

- Description updated

#3 - 20 Nov 2016 18:40 - pospelov

- Description updated

#4 - 20 Nov 2016 19:07 - pospelov

- Description updated

#5 - 22 Nov 2016 10:56 - herck

- Description updated

#6 - 22 Nov 2016 12:41 - pospelov

- Description updated

#7 - 22 Nov 2016 13:42 - pospelov

- Description updated

#8 - 22 Nov 2016 13:57 - herck

- Description updated

#9 - 23 Nov 2016 09:24 - pospelov

- Description updated

#10 - 24 Nov 2016 17:59 - pospelov

- Description updated

#11 - 24 Nov 2016 18:03 - pospelov

- Description updated

#12 - 01 Dec 2016 14:41 - wuttke

- Status changed from Rfc to Resolved

Resolved into issues [#1694](#) - [#1705](#). Transcribed everything except for

- IPython matplotlib problem (if somebodey can reproduce the problem, then please open issue with exact description of involved software versions)
- GUI crashes (provide more specific bug reports)