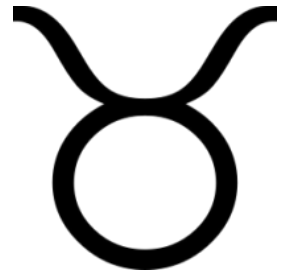# Taurus Workshop Summary & Status Report

by Johan Forsberg (MAXIV Laboratory)
Emilio Morales, Miquel Navarro, Jose Ramos and Zbigniew Reszela (ALBA Synchrotron)
on behalf of Taurus Community

Agenda

1. Taurus Workshop - summary.
2. Taurus Projects (taurus and taurus_pyqtgraph) - status.
3. Taurus Community - status.

Taurus Workshop - summary

Taurus workshop

- Content adjusted to the preferences expressed via poll (10 votes)
- Speakers:
  - Johan Forsberg (MAXIV)
  - Emilio Morales, Miquel Navarro, Jose Ramos, Zbigniew Reszela (ALBA)
- Participants:
  - On-site: ~30
  - Remote: ~20
- Content:
  - Introduction to Taurus
  - Hands-on sessions
- Materials available on https://gitlab.com/taurus-org/taurus-training
  - If you missed the workshop you can repeat it yourself at home

Taurus Zero Code Solutions - How to?
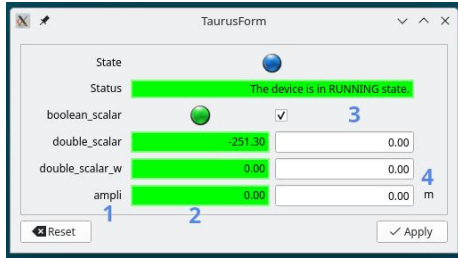
Use and customize a TaurusForm

Use and customize a TaurusTrend and TaurusPlot

Use Python expressions in GUIs w/o programming
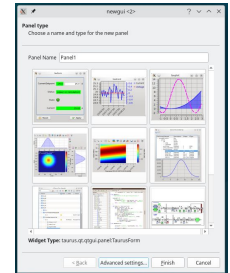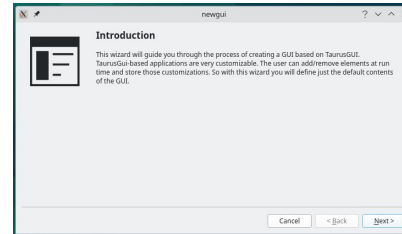
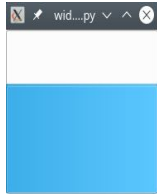Compose codeless apps with TaurusGui

SVG Synoptic

- How to use synoptic:
  - Show
  - Live update
  - Interact
- Connect with Tango
  - Use TaurusSynopticWidget and setModel
  - Run commands (with and without popup)
- Edit SVG with Inkscape
  - Common problem when hardcoding styles
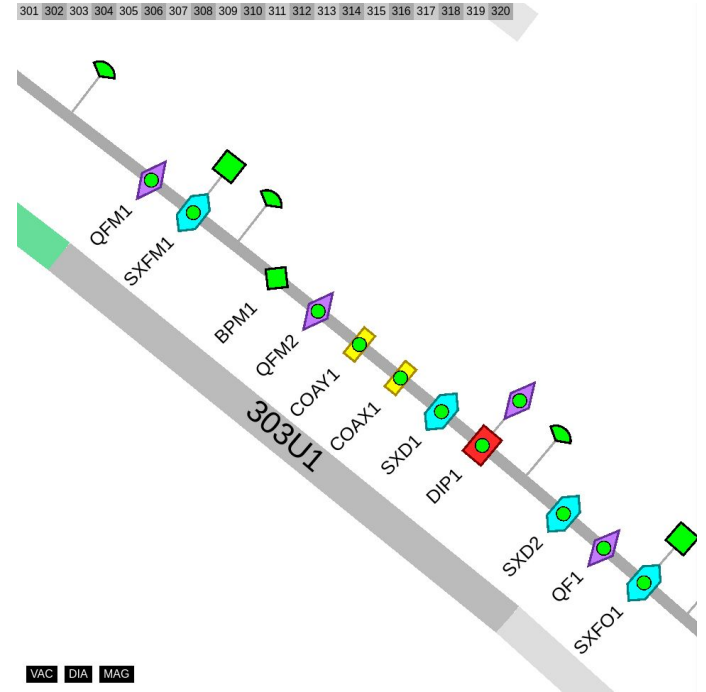
Develop Taurus widgets

- ● How to use classes:
  - ○ TaurusBaseComponent

  - ○ TaurusBaseWritableWidget


(no time to present it properly)

```python
1   from taurus.external.qt import Qt
2   from taurus.qt.qtgui.base import TaurusBaseComponent
3   from taurus.qt.qtgui.application import TaurusApplication
4
5
6   class PowerMeter(Qt.QProgressBar, TaurusBaseComponent):
7       """A Taurus-ified QProgressBar"""
8
9       # setFormat() defined by both TaurusBaseComponent and QProgressBar. Rename.
10      setFormat = TaurusBaseComponent.setFormat
11      setBarFormat = Qt.QProgressBar.setFormat
12
13      def __init__(self, parent=None, value_range=(0, 100)):
14          super(PowerMeter, self).__init__(parent=parent)
15          self.setOrientation(Qt.Qt.Vertical)
16          self.setRange(*value_range)
17          self.setTextVisible(False)
18
19      def handleEvent(self, evt_src, evt_type, evt_value):
20          """reimplemented from TaurusBaseComponent"""
21          try:
22              self.setValue(int(evt_value.rvalue.m))
23          except Exception as e:
24              self.info("Skipping event. Reason: %s", e)
25
26
27  if __name__ == "__main__":
28      import sys
29
30      app = TaurusApplication()
31      w = PowerMeter()
32      w.setModel("eval:Q(60+20*rand())")
33      w.show()
34      sys.exit(app.exec_())
```

Taurus GUI programmatic development

- ● How to use classes:
  - ○ PanelDescription
  - ○ TaurusApplication
  - ○ TaurusMainWindow
  - ○ TaurusGui
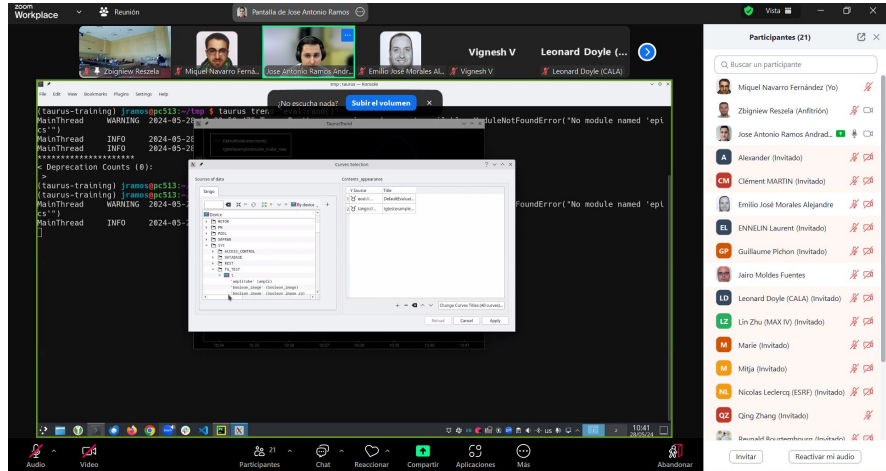
(no time to present it properly)
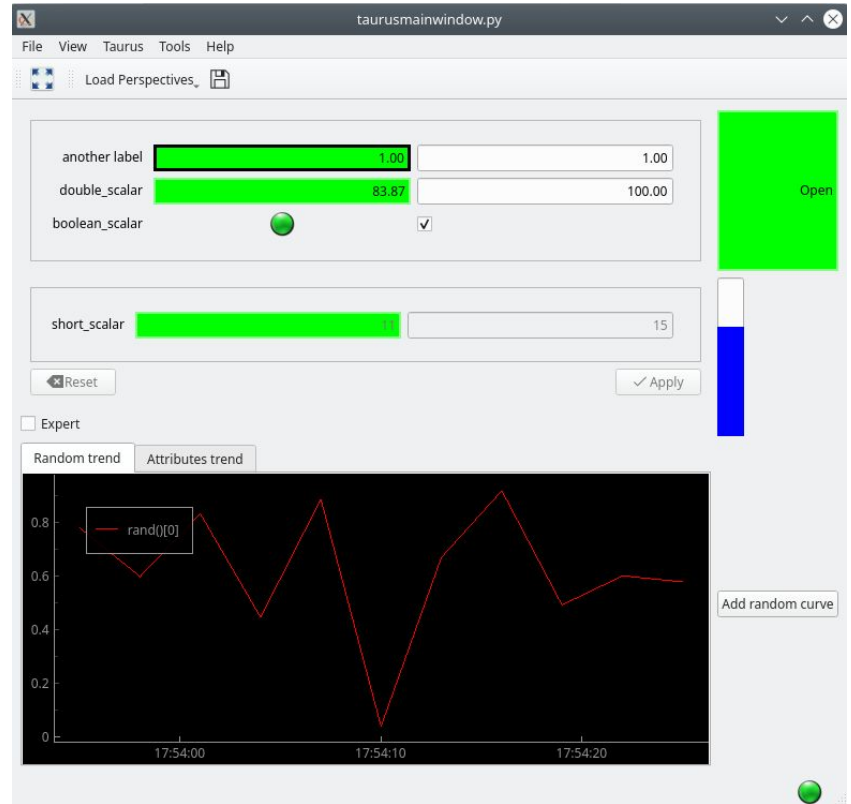
Acknowledgements

- Speakers:
  - Johan Forsberg (MAXIV)
 - Emilio Morales, Miquel Navarro, Jose Ramos, Zbigniew Reszela (ALBA)
- Participants

Taurus projects (taurus and taurus_pyqtgraph) - status

Support to multiple Tango DB

- Multiple Tango DB
  - Use several database servers in order to prevent server crash
  - TANGO_HOST=foo:10000,bar:10000
  - All calls to the database server will automatically switch to a running servers in the given list if the one used dies.
- Command line syntax, e.g.:
  - taurus form //foo:10000,bar:10000/sys/tg_test/1/ampli
- Model chooser syntax, e.g.:
  - 1. Add an empty row with the "+" button
  - 2. Edit the row (F2 or double click)
- Known problems
  - Issue with "Advanced settings" dialog when adding panels in TaurusGui
  - https://gitlab.com/taurus-org/taurus/-/issues/1337
- Available in develop branch
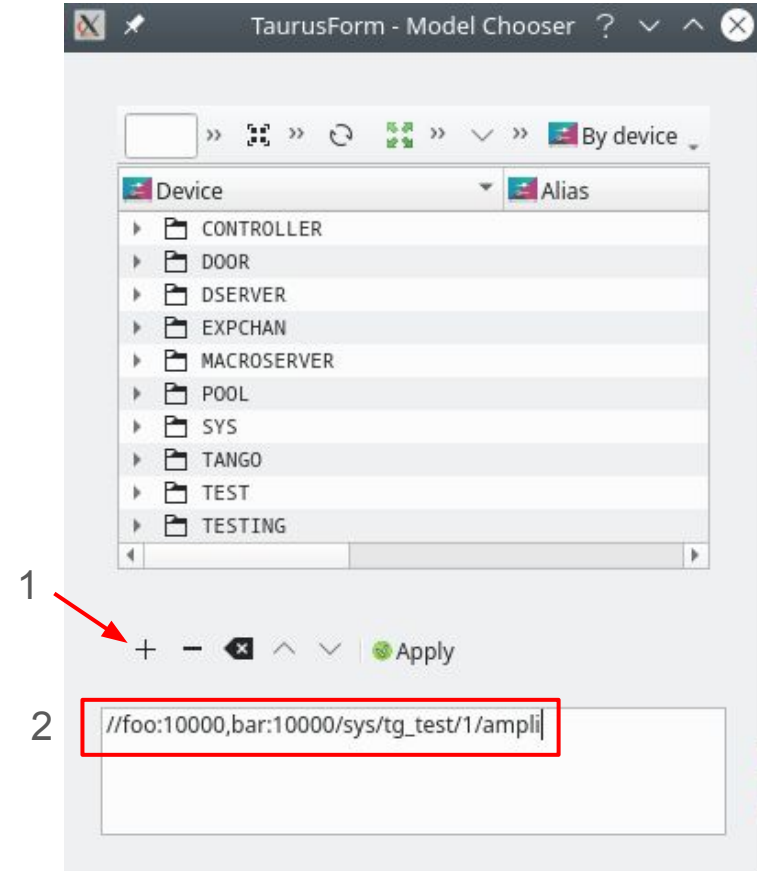
Eliminated memory leaks when attributes raise exceptions

Fix available in version 5.1.8.

Fix available in develop branch. Many thanks to Hano Perrey (MAXIV)!

Plotting enhancements - part 1
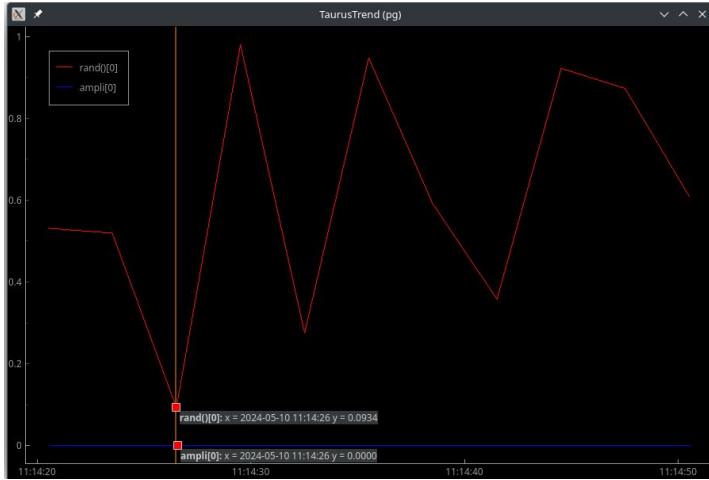
Added name to the inspector hint when checking Inspector Mode.
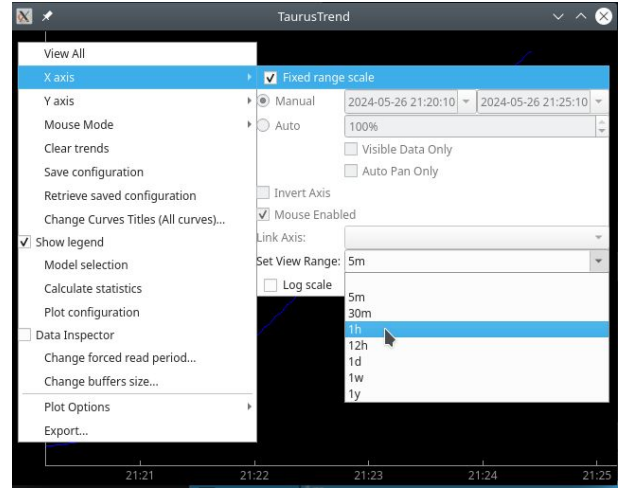
Added range selector for x axis view on trends.

Plotting enhancements - part 2

Allowed to customize curve names on the legend.

Added statistics tool.
Many thanks to Jakub Kowalczyk (S2Innovation/MAXIV)!

Taurus Performance Optimization - In Progress

- In-depth analysis of Taurus performance on the Taurus Workshop at the ESRF (III 2023) (https://indico.esrf.fr/event/76/contributions/389/)
  - Taurus core performance - optimized by 50%
  - Obvious but relatively easy to solve bugs - still TODO
    Slow Attributes (considerable readout time)
    Timeout Attributes (3 s CORBA timeout)
  - Subscription to events in Tango - still TODO
    https://gitlab.com/taurus-org/TPO

- The project advances slower than expected:
  - Big demand for the community support
    (MR, issues, follow-up)
  - Turnover of the project members
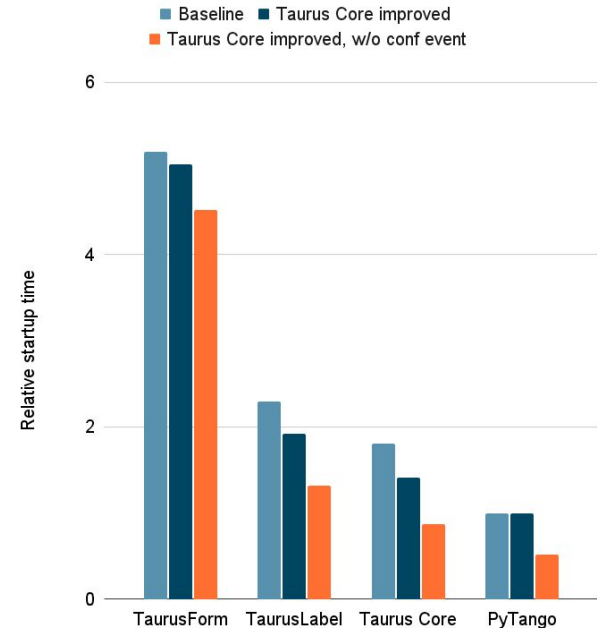
Support to PyQt6 - In Progress

- Added support to PyQt6 and PySide6 in taurus.external.qt *shim* module
- Next step: implement mirroring of new enumerations names to the old ones, and introduce deprecation warning for the old ones (if possible)
  - Enums: PyQt6 enums are based on python Enum class. This forces developers to use the full namespace to identify a value: e.g.: class.enum.value instead of class.value.
- By Arturo Hoffstadt from ESO - Many thanks!
- Work available on: https://gitlab.com/ahoffsta/taurus/-/tree/qt6-compatibility

taurus-org / taurus / Issues / #1299

Add support for PyQt6/PySide6

○ Open Issue created 9 months ago by **Arturo Hoffstadt Urrutia**

Taurus Community - status

Taurus Community - recent history

VIII 2020

The boat is sinking...

Edit ⋮

○ Open 🗋 Issue created 3 years ago by **Carlos Pascual**

This is a quite special bug report. It is about a community issue

IMHO, we should seriously re-think the organization of the Taurus development, and specially the core members (@taurus-org/integrators). Currently the taurus management (integration, planning, steering,...) is *de-facto* concentrated almost exclusively on a single institute (ALBA)... and mostly a single person (me). This is neither healthy for the Taurus Project nor for me.

V 2022   Carlos Pascual - the main developer and maintainer left the project.

III 2023

TAURUS workshop

14–15 Mar 2023
ESRF

Thanks again to the ESRF and Nicolas Leclercq for the workshop organization!

Taurus Community - revival is in progress
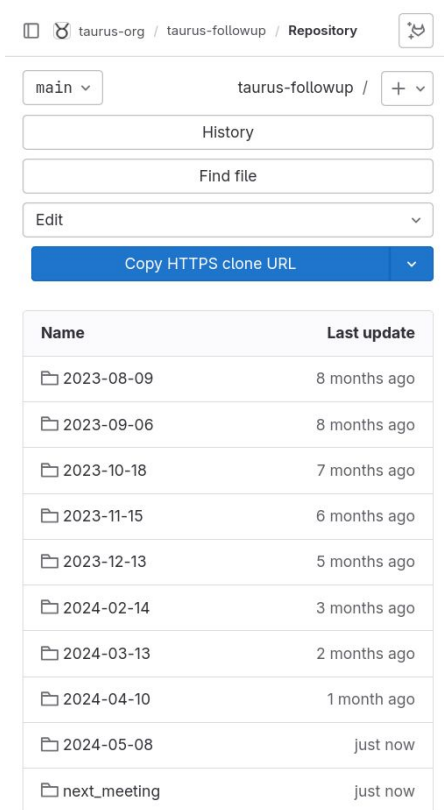
taurus - GitLab activity

Period	Created Issues	Created MRs
26/05/23 - 25/05/24 (last year)	**54**	**22**
26/05/22 - 25/05/23	22	13

taurus_pyqtgraph - GitLab activity

Period	Created Issues	Created MRs
26/05/23 - 25/05/24 (last year)	**9**	**13**
26/05/22 - 25/05/23	2	7

Taurus follow-up meetings

- **9 follow-up meetings (~ every month)**
- **Agenda and Minutes:**
  https://gitlab.com/taurus-org/taurus-followup
- **Big thanks to all participants!**
  - **ALBA**: Albert Ollé, Emilio Morales, Jose Ramos, Marti Caixal, Miquel Navarro, Zbigniew Reszela
  - **DESY**: Teresa Nuñez
  - **ESO**: Arturo Hoffstadt, Marzena Kaczmarczyk
  - **ESRF**: Guillaume Communie, Nicolas Leclercq, Reynald Bourtenbourg
  - **HI JENA**: Dominik Hollatz
  - **IPANEMA**: Marouane Ben Jelloul
  - **MAXIV**: Antonio Bartalesi, Áureo Freitas, Benjamin Bertrand, Hanno Perrey, Johan Forsberg, Mirjam Lindberg, Vincent Hardion
  - **Solaris**: Krzysztof Madura, Magdalena Szczepanik, Mateusz Floras, Michał Fałowski, Michał Piekarski, Wojciech Wantuch
  - **SOLEIL**: Ludmila Klenov, Patrick Madela, Raphael Girardot,
  - **S2Innovation**: Michał Gandor, Tomasz Madej
  - Others: Juan de la Figuera
- Book your agenda for the **next meeting: 5/06/2024!**

Summary

- Yesterday's Taurus Workshop was a big success. Lesson learnt: better time keeping.
  - Participants: On-site: ~30, Remote: ~20
  - Materials are available on: https://gitlab.com/taurus-org/taurus-training
- taurus and taurus_pyqtgraph projects:
  - New features and bug fixes
  - Performance improvements
- Taurus Community revival is in progress - big thanks to all contributors (taurus and taurus_pyqtgraph, issues and MRs, last 2 years, alphabetical order):
  - Adrianna Pytel, Anton Joubert, Antonio Bartalesi, Arturo Hoffstadt, Áureo Freitas, Carlos Pascual, Daniel Martinez, Daniel Schick, Dominika Trojanowska, Emilio Morales, Grigory Prutskov, Guillaume Communie, Jaa-W, Jairo Moldes, Jakub Kowalczyk, Jan Kotański, Johan Forsberg, Jose Ramos, Karol Błażejewski, Konstantin Klementiev, Ludmila Klenov, Magdalena Szczepanik, Martí Caixal, Michał Fałowski, Michał Piekarski, Miquel Navarro, Nicolas Leclercq, PhilIJC, Qing Zhang, Roberto Homs, Tomasz Madej, Vignesh Vaidyanathan, Wojciech Wantuch, Zbigniew Reszela