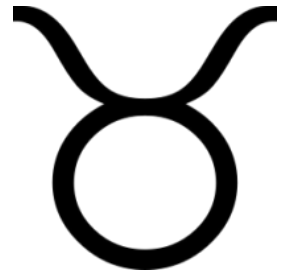


# Taurus Workshop Summary & Status Report

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



# Agenda

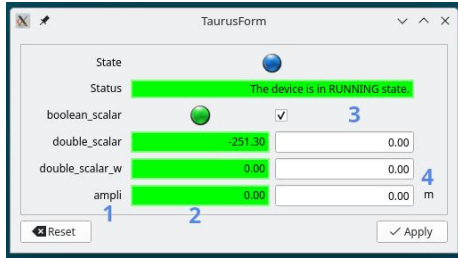
1. Taurus Workshop - summary.
2. Taurus Projects (taurus and taurus\_pyqtgraph) - status.
3. Taurus Community - status.

# 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

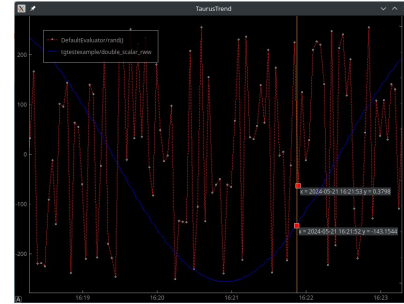
# Taurus Zero Code Solutions - How to?



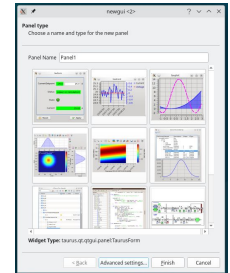
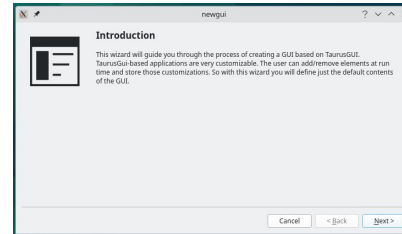
Use and customize a TaurusForm



Use Python expressions in GUIs w/o programming



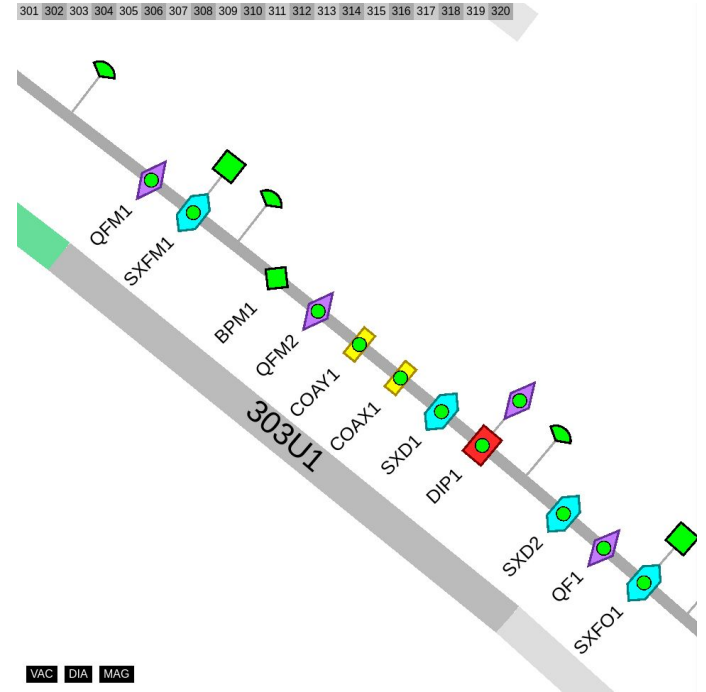
Use and customize a TaurusTrend and TaurusPlot



Compose codeless apps with TaurusGui

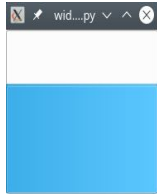
# SVG Synoptic

- 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)

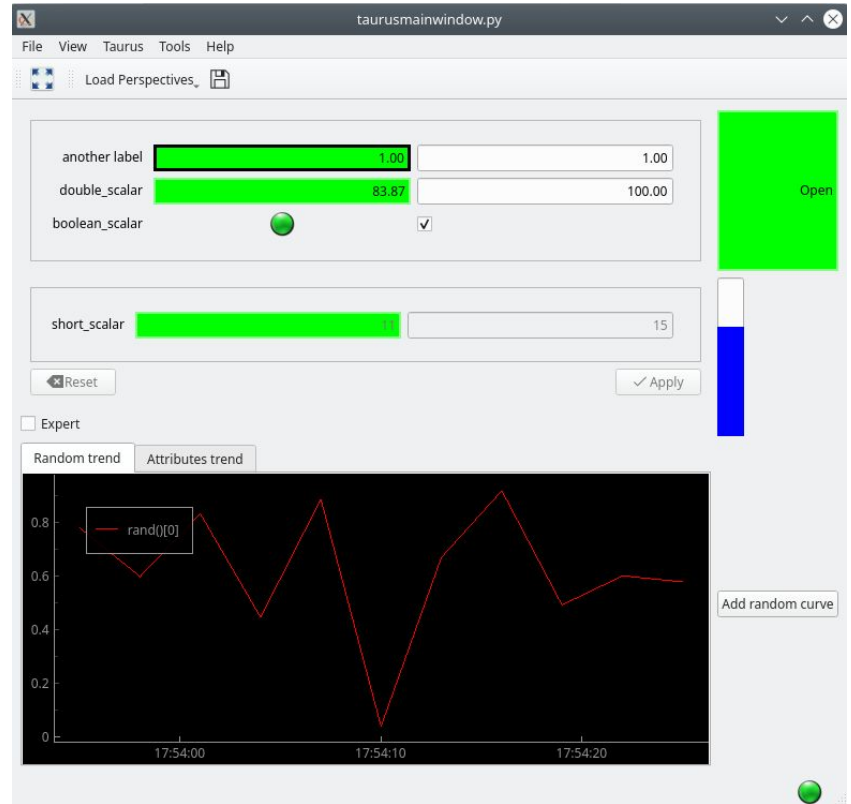
```
1 from taurus.external.qt import Qt
2 from taurus.qt.qtgui.base import TaurusBaseComponent
3 from taurus.qt.qtgui.application import TaurusApplication
4
5
6 class PowerMeter(Qt.QProgressBar, TaurusBaseComponent):
7     """A Taurus-ified QProgressBar"""
8
9     # setFormat() defined by both TaurusBaseComponent 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)



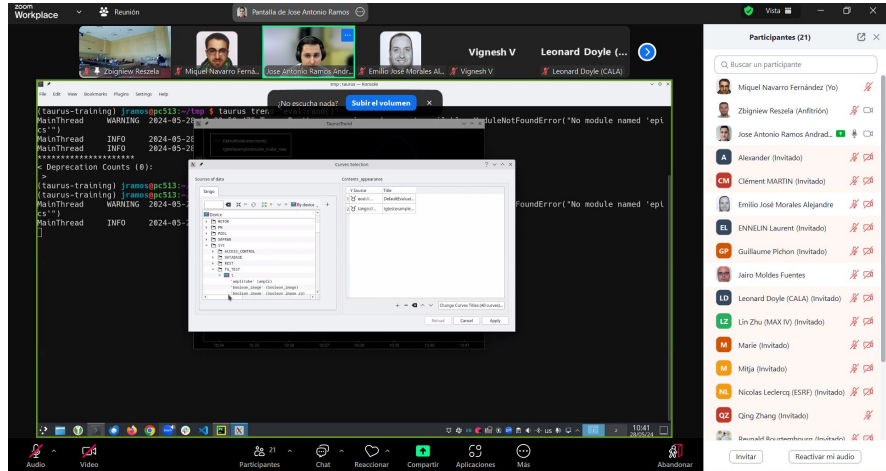


# Acknowledgements

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



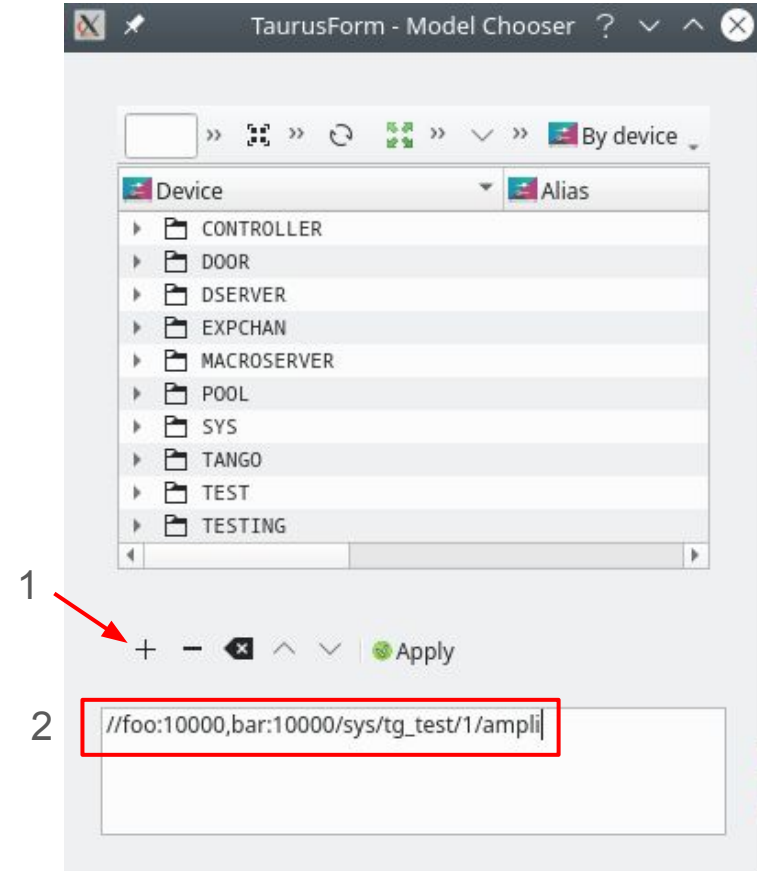
- Participants



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

 taurus-org /  taurus / Merge requests / !1266

---

## Fix memory leak when attributes are not allowed to read or returning exceptions.

 Merged Emilio Morales requested to merge [fix-taurus-value-mem-leak](#) into [develop](#) 6 months ago

Fix available in version 5.1.8.

 taurus-org /  taurus / Issues / #1318

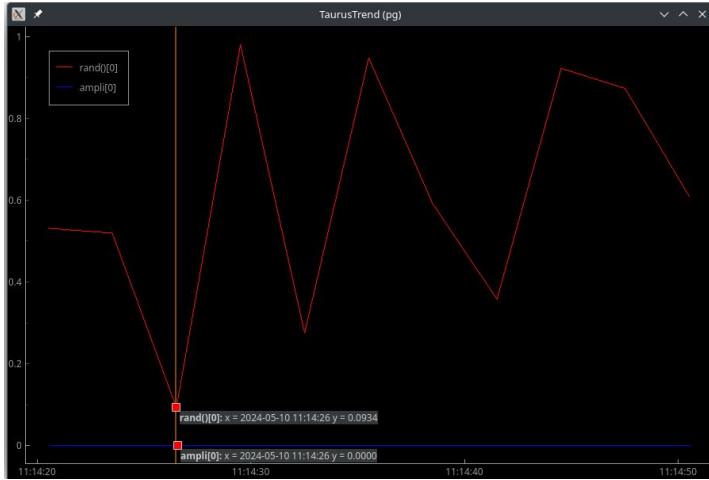
---

## Memory leak polling READ\_WRITE attribute when access is not allowed on startup

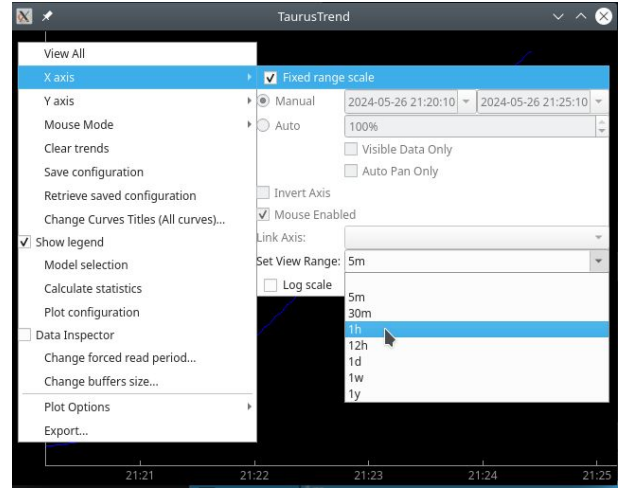
 Closed  Issue created 5 months ago by Hanno Perrey

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

Sources of data

Tango

Device

- CONTROLLER
- DOOR
- DSERVER
- EXPCHAN
- IOREGISTER

Alias

Contents\_appearance

Y Source	Title
1 tango://pt222.cells.es:10000/sys/tg_test/1/double_scalar	double_scalar[0]
2 tango://pt222.cells.es:10000/sys/tg_test/1/float_scalar	tango://pt222.cells.es:10000/sys/tg_test/1/...
3 tango://pt222.cells.es:10000/sys/tg_test/1/ampli	ampli[0]

Change Curves Titles (All curves)...

Reload Cancel Apply

Allowed to customize curve names on the legend.

Choose the title format.  
You may use Python format() syntax. The TaurusDevice object can be referenced as "dev" and the TaurusAttribute object as "attr"

- {attr.label}
- {attr.name}
- {attr.fullname}
- {dev.name}
- {dev.fullname}

X limits

min 2024-05-26T21:26:04.970

max 2024-05-26T21:26:40.102

Stats

points  min  max  mean  std  rms

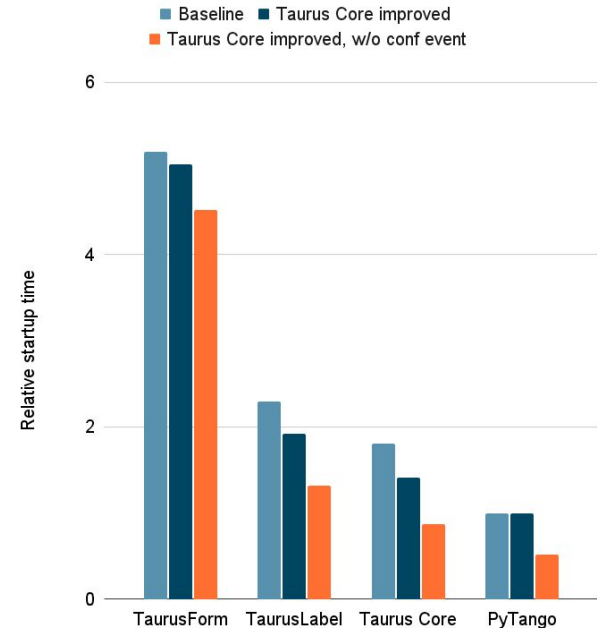
	points	min	max	mean	std	rms
rand() 0]	24	t=2024-05-26T... y=0.09000435...	t=2024-05-26T... y=0.96300366...	0.523872	0.257849	0.58389
double_scalar[0]	24	t=2024-05-26T... y=249.438824...	t=2024-05-26T... y=255.961004...	254.15	2.05538	254.158

(re)calculate

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

taurus-org / taurus / Issues / #1140

## 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.

VIII 2020

V 2022

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

III 2023



TAURUS workshop

14–15 Mar 2023  
ESRF

The image shows a screenshot of the Taurus control interface. It features a large window with a graph displaying a green curve and a red curve. Below the graph, there is a control panel with various buttons and indicators. The word 'Taurus' is prominently displayed in the center of the interface. The background of the slide is a dark grey gradient.

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

# Taurus Community - revival is in progress

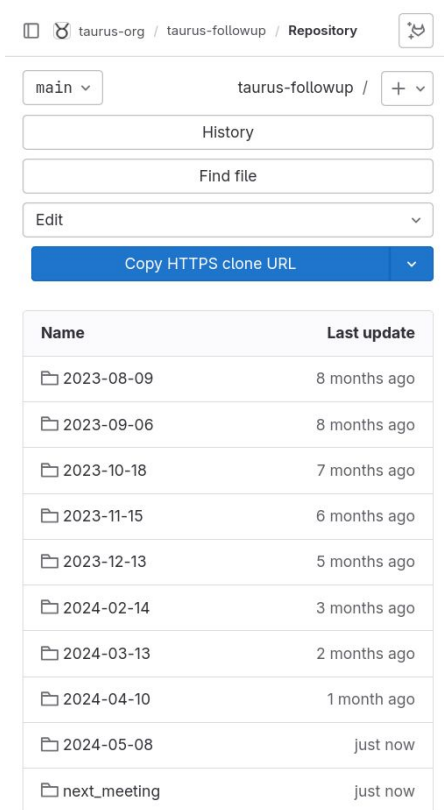
## taurus - GitLab activity

Period	Created Issues	Created MRs
26/05/23 - 25/05/24 (last year)	<b>54</b>	<b>22</b>
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)	<b>9</b>	<b>13</b>
26/05/22 - 25/05/23	2	7

# Taurus follow-up meetings



taurus-org / taurus-followup / Repository

main taurus-followup / +

History

Find file

Edit

Copy HTTPS clone URL

Name	Last update
2023-08-09	8 months ago
2023-09-06	8 months ago
2023-10-18	7 months ago
2023-11-15	6 months ago
2023-12-13	5 months ago
2024-02-14	3 months ago
2024-03-13	2 months ago
2024-04-10	1 month ago
2024-05-08	just now
next_meeting	just now

- 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 Błażejowski, Konstantin Klementiev, Ludmila Klenov, Magdalena Szczepanik, Martí Caixal, Michał Fałowski, Michał Piekarski, Miquel Navarro, Nicolas Leclercq, PhillJC, Qing Zhang, Roberto Homs, Tomasz Madej, Vignesh Vaidyanathan, Wojciech Wantuch, Zbigniew Reszela