



Taurus⁵ Status Report

35th TANG⁵ Meeting (online, September 2021)

Carlos Pascual-Izarra
Zbigniew Reszela





Taurus?

New home

Major version change

Progress highlights

Tango-related issues

Guess what?



Taurus?

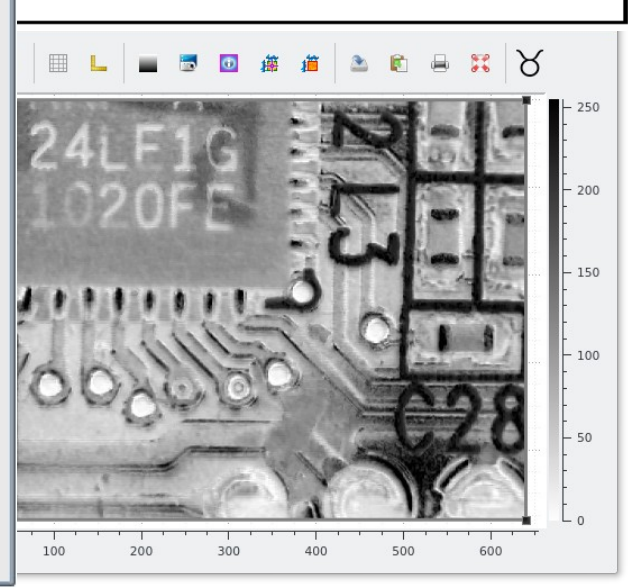
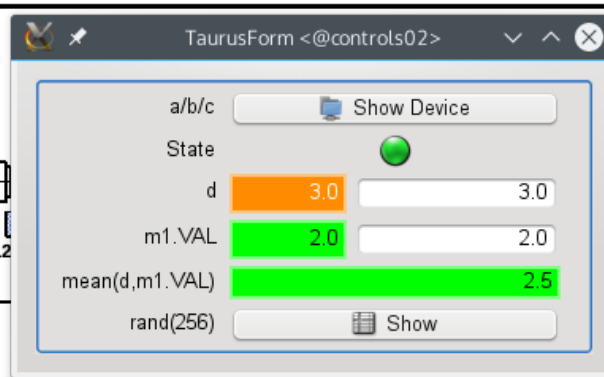
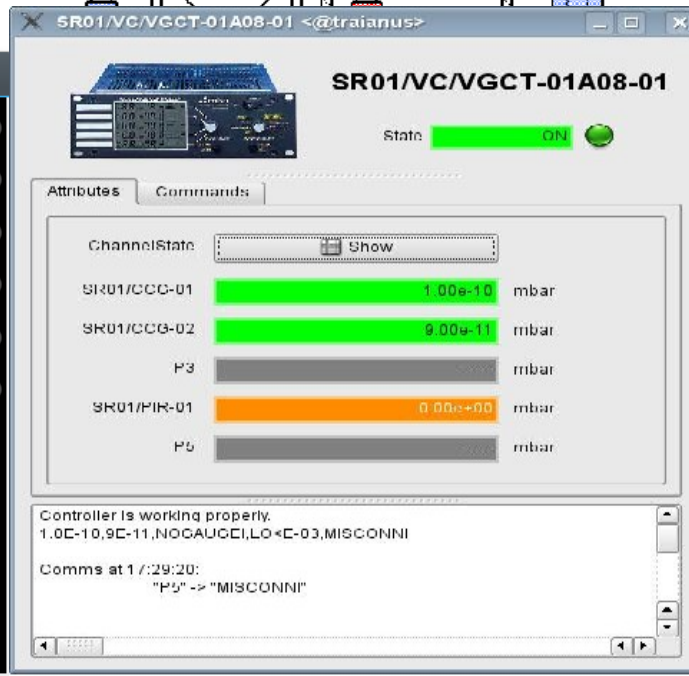
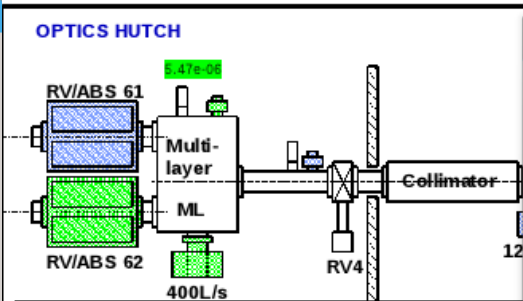
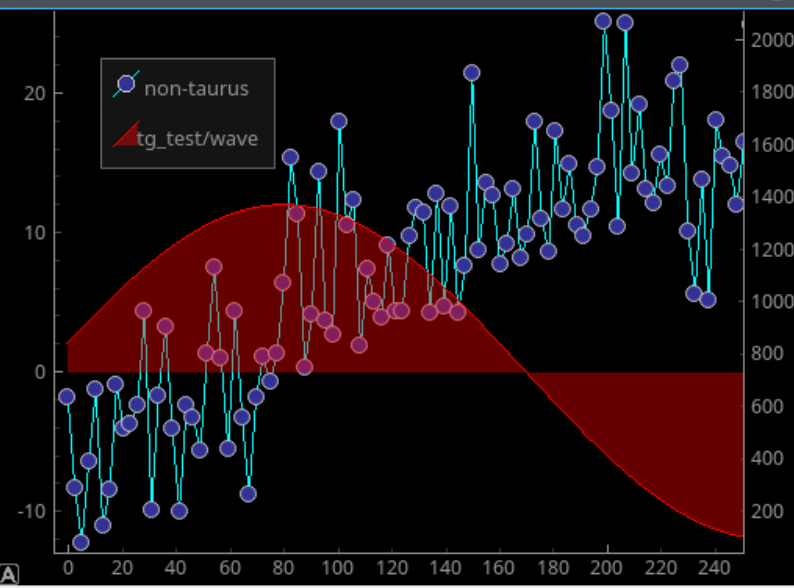
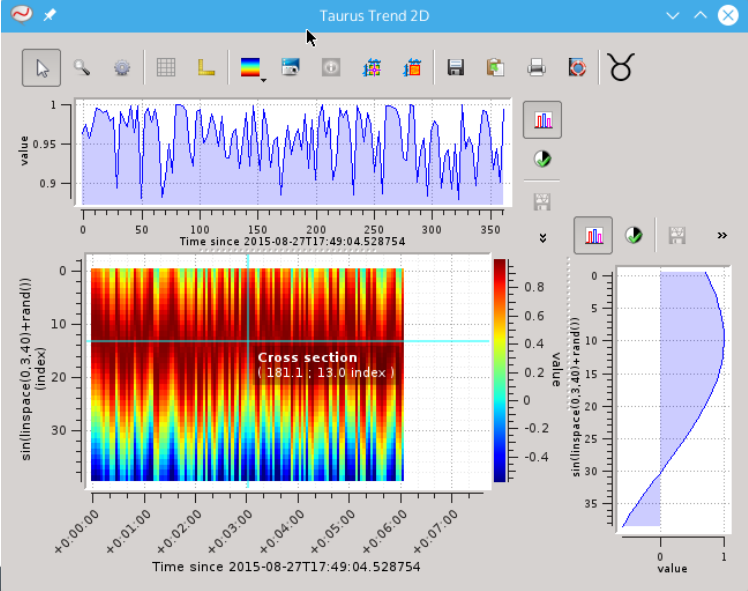
New home

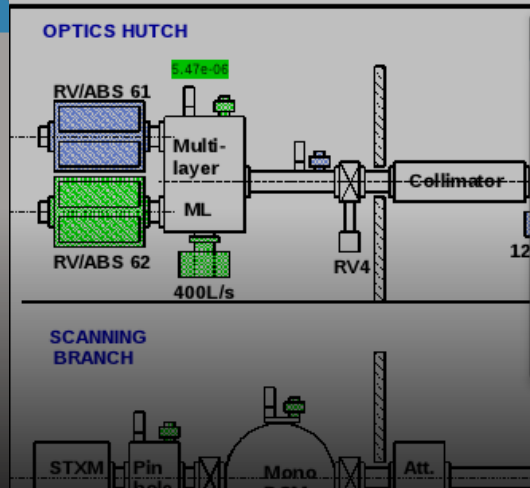
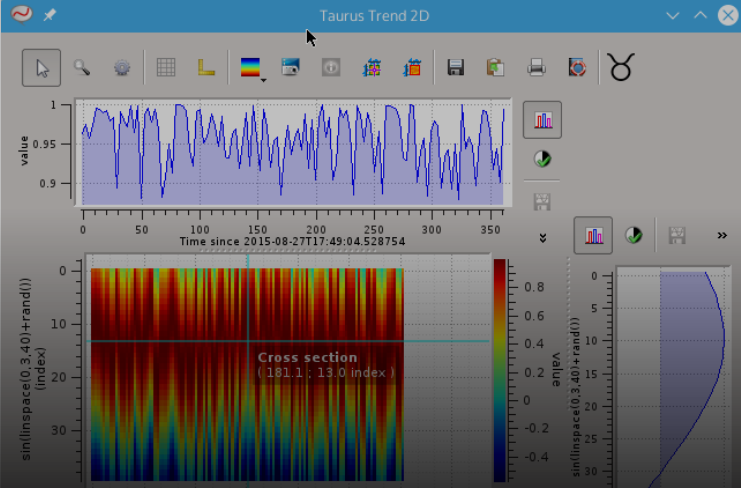
Major version change

Progress highlights

Tango-related issues

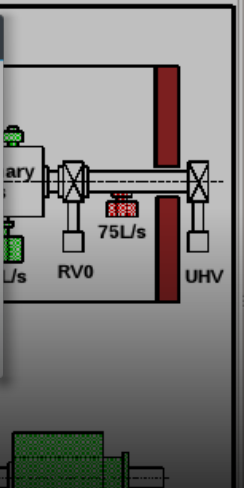
Guess what?



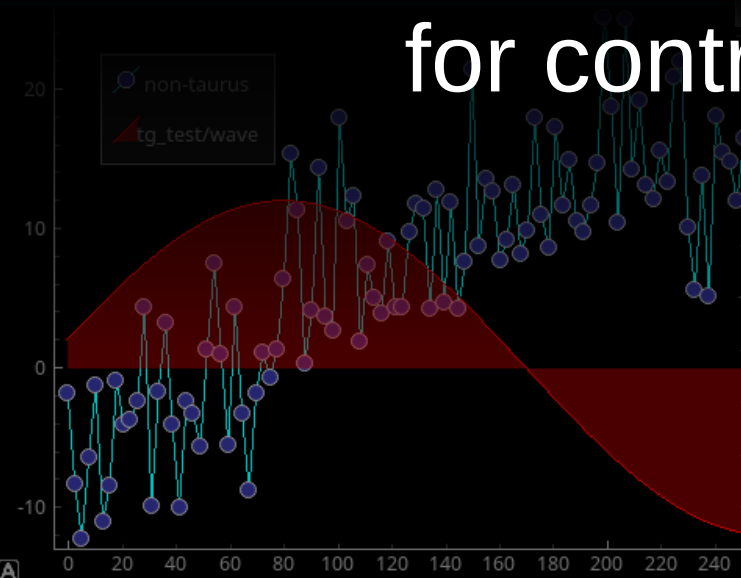


TaurusForm <@controls02> window showing controls for a/b/c, State, d, m1.VAL, mean(d,m1.VAL), and rand(256).

Control	Value
a/b/c	Show Device
State	Green circle
d	3.0
m1.VAL	2.0
mean(d,m1.VAL)	2.5
rand(256)	Show



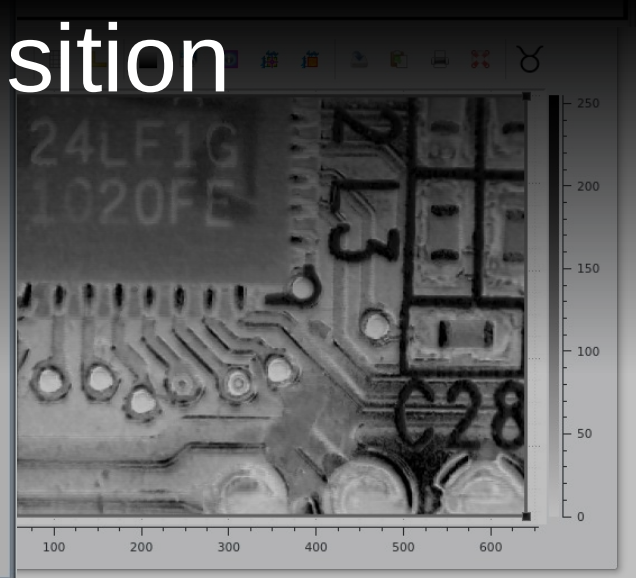
Taurus is a python framework for building UIs for control and data acquisition



ChannelState window showing pressure readings for SR01/CCG-01, SR01/CCG-02, P3, SR01/PIR-01, and P5.

Channel	Value	Unit
SR01/CCG-01	1.00e-10	mbar
SR01/CCG-02	9.00e-11	mbar
P3		mbar
SR01/PIR-01	0.00e+00	mbar
P5		mbar

Controller is working properly.
1.0E-10,9E-11,NOGAUGCI,LO<E-03,MISCONNI
Comms at 1 /:29:20:
"P5" -> "MISCONNI"





Taurus?

New home

Major version change

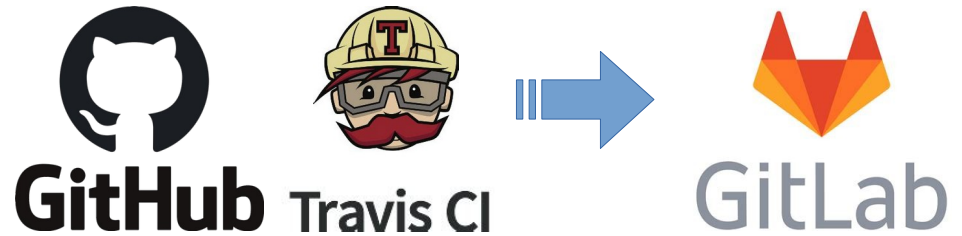
Progress highlights

Tango-related issues

Guess what?

New home: Gitlab

- New home (<https://gitlab.com/taurus-org>) for:
 - taurus
 - taurus_pyqtgraph
 - h5file-scheme
 - taurus_tangoarchiving
 - pandas-scheme
- New **taurus-docker** project using gitlab registry
- **Improved CI** (simpler, more complete and extendable)





Taurus?

New home

Major version change

Progress highlights

Tango-related issues

Guess what?

Major version change: taurus⁵

- **v4.8** released in Jun'21
 - **last release in the 4.x series**
 - supports python2 + Qt4 (and python3 + Qt5)
- **v5.0** to be released in Sept'21
 - **refactored**, cleaner, more modern code
 - supports **python >=3.5 and Qt5 only**
 - other than that, 100% **compatible with 4.x**



Taurus?

New home

Major version change

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Tango-related issues

Guess what?

Plugin support now official

- Based on setuptools **entry-points**
- **Documented**
- Current **official** entry points:
 - CLI subcommands
 - Schemes
 - Formatters
 - Model Chooser Selectors
 - Plot widget Alternatives
 - Trend widget Alternatives
 - Image widget Alternatives
 - Trend2D widget Alternatives
 - Form Factories
 - qtgui submodules

The screenshot shows a web browser window with two tabs: 'taurus-org / taurus · GitLab' and 'Taurus plugins — taurus 4.8.0'. The address bar shows the URL 'taurus-scada.org/devel/plugins.html#cli-subcommands'. The page has a dark theme. On the left is a sidebar with a 'Developer's Guide' section expanded, listing various guides and 'Plugins'. The main content area is titled 'Form Factories' and contains a bulleted list of information about custom widgets, including code snippets for `setItemFactories()` and `pool_item_factory()`. At the bottom of the main area, the text 'qtgui submodules' is visible.

taurus-org / taurus · GitLab x Taurus plugins — taurus 4.8.0 x +

taurus-scada.org/devel/plugins.html#cli-subcommands

Incognito (2)

User's Guide

Developer's Guide

- Taurus 3.x to Taurus 4.x migration guide
- Development guidelines
- Creating GUIs with the TaurusGUI framework
- Designer tutorial
- Icon guide
- Core tutorial
- Plotting guide
- Plugins
- Taurus Custom Settings
- Examples
- API
- All Classes

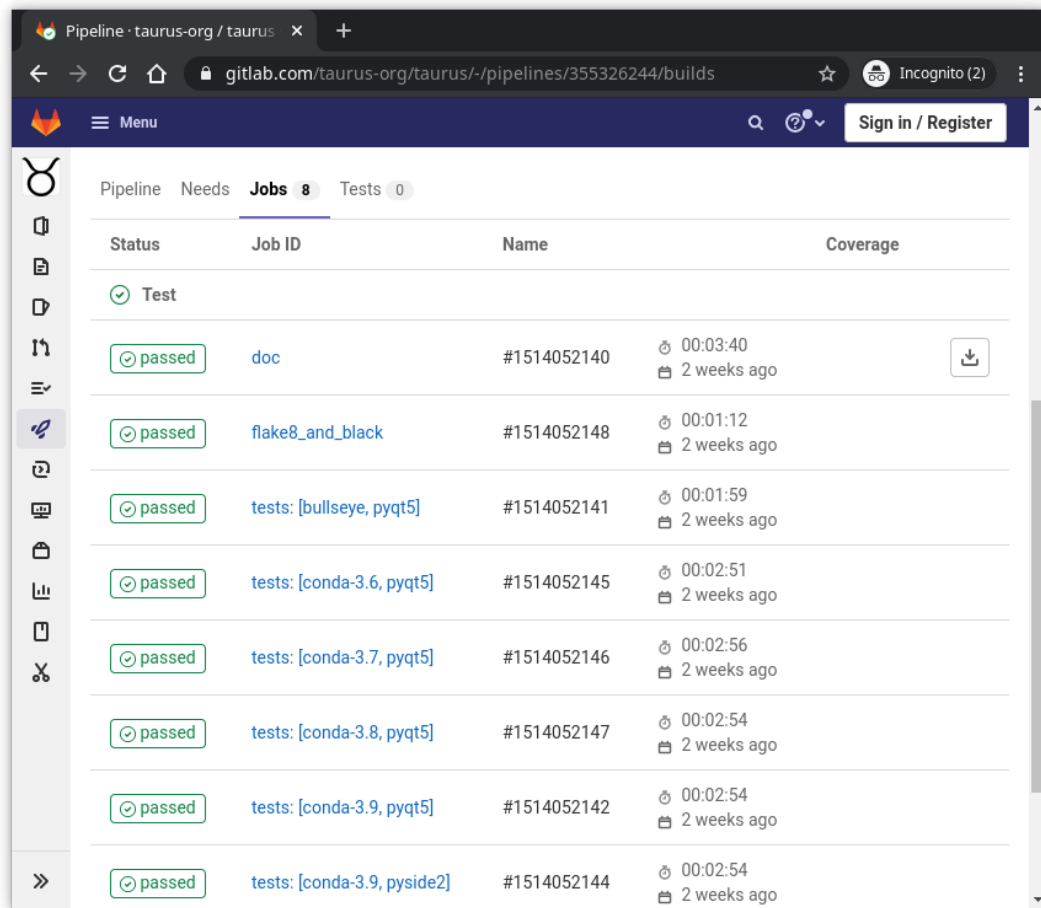
Form Factories

- Description: factories for custom "taurus value" widgets to be used in taurus forms. See `taurus.qt.qtgui.panel.TaurusForm.setItemFactories()`
- Group: `taurus.form.item_factories`
- Expected API: a factory function that accepts a model name as its first argument and which returns either a `taurus.qt.qtgui.panel.TaurusValue` type object (or `None`)
- Entry point name convention:
- Loading pattern: extension
- Enabling pattern: installation, but allowing explicit (de)selection based on `taurus.core.util.plugin.selectEntryPoints()`.
- Examples: [sardana](#) registers `sardana.taurus.qt.qtgui.extra_pool.formitemfactory.pool_item_factory()` to provide custom widgets for sardana elements in taurus forms.

qtgui submodules

Improved testsuite and CI

- Works **without a TangoDB** service
 - Uses TangoDeviceTestContext
 - less infrastructure required
 - more robust
- **docker-based test matrix** (taurus-docker)
 - PyQt5, PySide2
 - bullseye, conda-3.9, conda-3.8, conda-3.7, conda3.6
- Docs built **and browsable** for each branch & tag (including all MRs)



The screenshot shows the GitLab CI/CD interface for the pipeline `taurus-org / taurus`. The pipeline is named `taurus-org / taurus` and is located at `gitlab.com/taurus-org/taurus/-/pipelines/355326244/builds`. The pipeline status is **passed** (indicated by a green checkmark). The pipeline has 8 jobs, all of which passed. The jobs are listed in a table with columns: Status, Job ID, Name, and Coverage. The jobs are:

Status	Job ID	Name	Coverage
passed	doc	#1514052140	00:03:40 2 weeks ago
passed	flake8_and_black	#1514052148	00:01:12 2 weeks ago
passed	tests: [bullseye, pyqt5]	#1514052141	00:01:59 2 weeks ago
passed	tests: [conda-3.6, pyqt5]	#1514052145	00:02:51 2 weeks ago
passed	tests: [conda-3.7, pyqt5]	#1514052146	00:02:56 2 weeks ago
passed	tests: [conda-3.8, pyqt5]	#1514052147	00:02:54 2 weeks ago
passed	tests: [conda-3.9, pyqt5]	#1514052142	00:02:54 2 weeks ago
passed	tests: [conda-3.9, pyside2]	#1514052144	00:02:54 2 weeks ago

System and user settings files

- New: **system** and **user** settings files
- Uses INI style
 - values parsed with python eval
- key-values loaded and exposed in `taurus.tauruscustomsettings`
- CLI option for passing a custom file:
`taurus --settings=foo.ini`

	POSIX	Windows
system	/etc/xdg/taurus/taurus.ini	%PROGRAMDATA%\taurus\taurus.ini
user	~/.config/taurus/taurus.ini	%APPDATA%\taurus\taurus.ini

```
$ cat ~/.config/taurus/taurus.ini
[taurus]

_MAX_DEPRECATIONS_LOGGED = -1

# DEFAULT_SCHEME = "epics"

DEFAULT_QT_API = "pyside2"

T_FORM_COMPACT = True

T_FORM_ITEM_FACTORIES = {"exclude": (".*",)}

$ █
```

Refactored imports and docstrings

- **Clear separation** between official API and internal implementations (using `__all__`)
- **Simplified** and **complete** API docs autogeneration
- class docs include official import statement
- docstrings use **standard sphinx style** (dropped taurus custom style)

TaurusLCD — taurus 5.0.0.dev x +

taurus-org... Incognito (3)

TaurusBaseWidget QLCDNumber

TaurusLCD


```
class TaurusLCD(parent=None, designMode=False) \[source\]
```

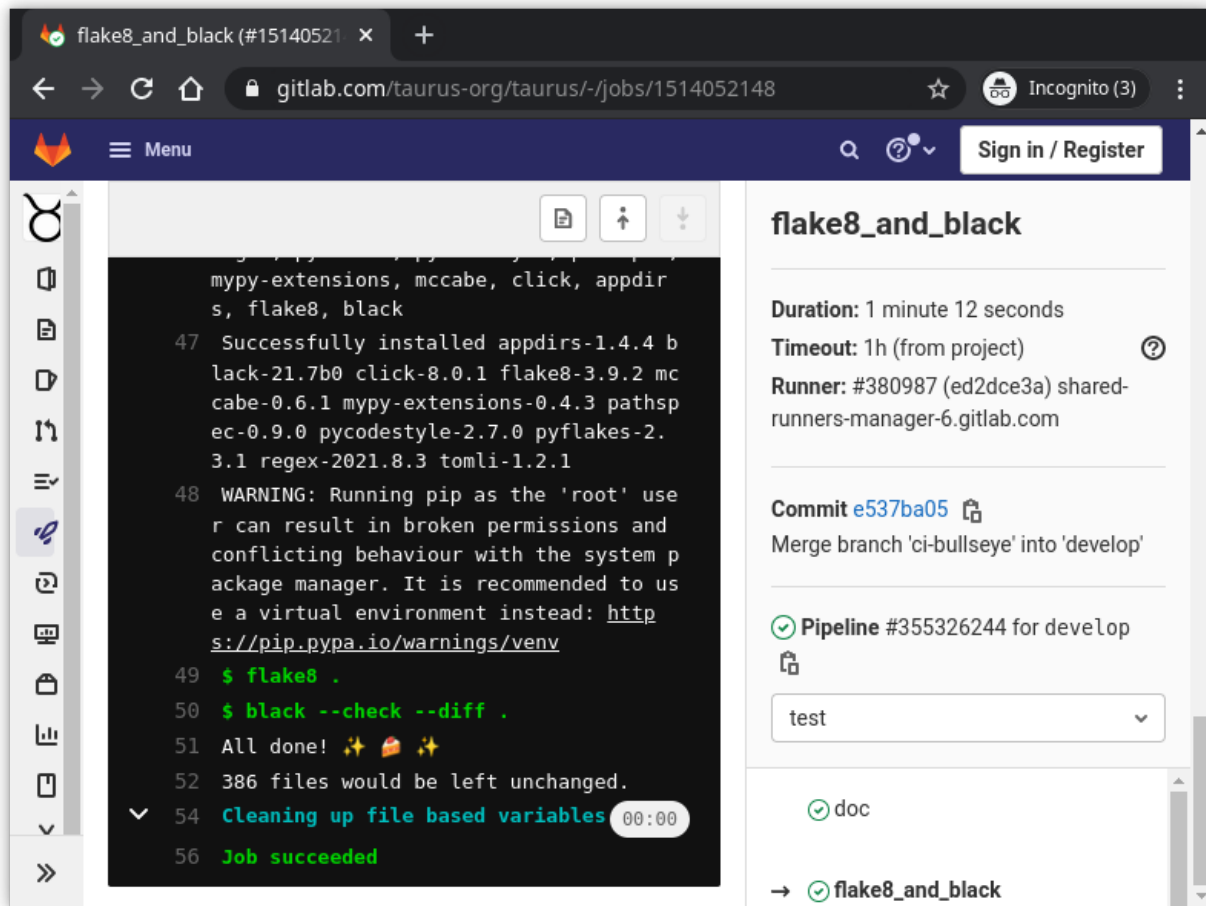
A Taurus-enabled `Qt.QLCDNumber` widget. Its text can represent either the rvalue or wvalue *magnitude* (or nothing), and the background can colour-code the attribute quality or the device state (or nothing)

Import from `taurus.qt.qtdisplay` as:

```
from taurus.qt.qtdisplay import TaurusLCD
```

Clean code: flake8 + black

- All code refactored for passing flake8
- All code reformatted with 
- flake8 and black enforced in CI



The screenshot shows a GitLab CI/CD pipeline job titled 'flake8_and_black' (ID #1514052148) running on the GitLab platform. The job is currently in a 'succeeded' state. The main content of the job is a terminal log showing the execution of flake8 and black. The log indicates that the dependencies were successfully installed, a warning was issued about running pip as the root user, and the flake8 and black checks passed without any errors. The job duration was 1 minute and 12 seconds, with a timeout of 1 hour. The runner used was #380987 (ed2dce3a) shared-runners-manager-6.gitlab.com. The commit being tested is e537ba05, and the pipeline is for the develop branch. The job is part of a larger pipeline named 'flake8_and_black'.

```
flake8_and_black (#1514052148) x +
gitlab.com/taurus-org/taurus/-/jobs/1514052148
Incognito (3)
Sign in / Register

flake8_and_black

Duration: 1 minute 12 seconds
Timeout: 1h (from project)
Runner: #380987 (ed2dce3a) shared-runners-manager-6.gitlab.com

Commit e537ba05
Merge branch 'ci-bullseye' into 'develop'

Pipeline #355326244 for develop
test

doc

flake8_and_black
```

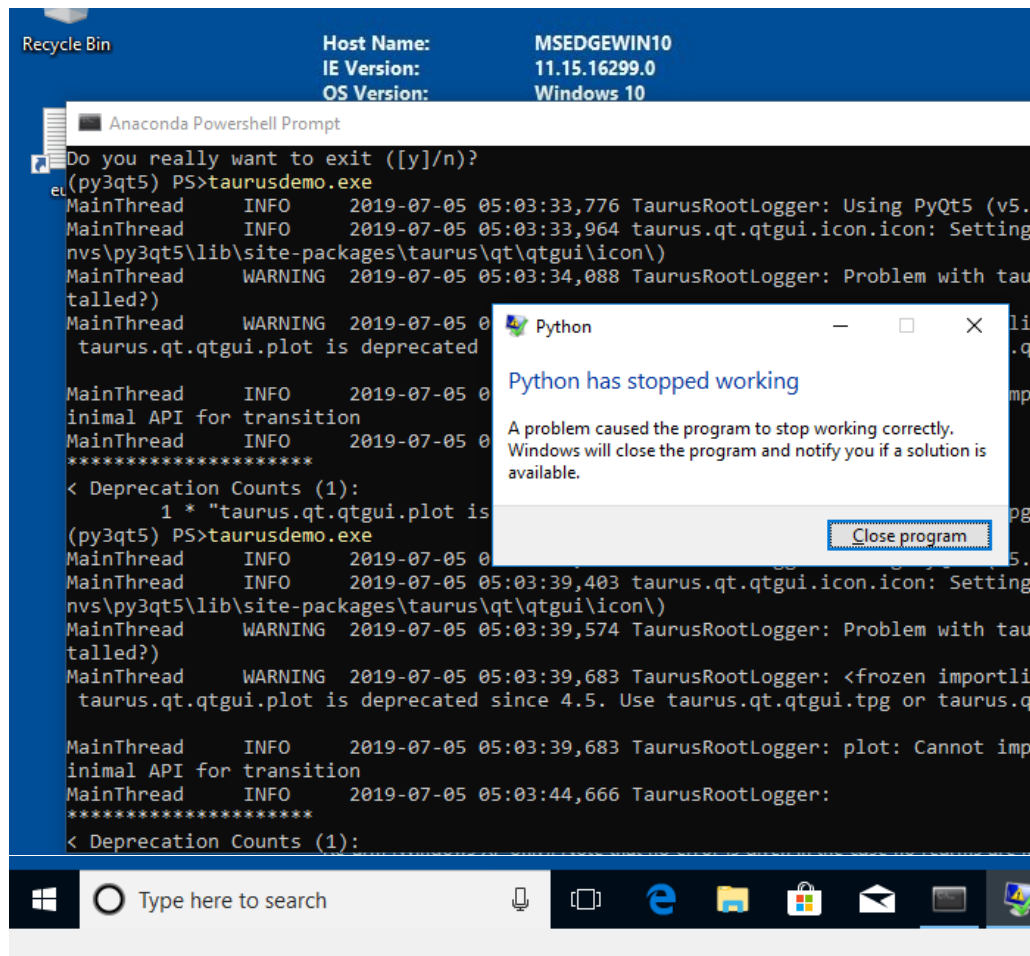
```
47 Successfully installed appdirs-1.4.4 b
s, flake8, black
48 WARNING: Running pip as the 'root' use
r can result in broken permissions and
conflicting behaviour with the system p
ackage manager. It is recommended to us
e a virtual environment instead: http://pip.pypa.io/warnings/venv
49 $ flake8 .
50 $ black --check --diff .
51 All done! ✨ 🍰 ✨
52 386 files would be left unchanged.
54 Cleaning up file based variables 00:00
56 Job succeeded
```

v4.8

v5.0

Other improvements

- Fixed crashes on exit in windows
- Fixed deadlock in TaurusPollingTimer
- Faster initialization: TaurusWidgetFactory
- Better PySide2 support
 - (thanks Arturo H @ESO)
- Improved DateTime support in plots & trends
- Fixed TaurusLed display on faulty signals
 - (thanks Piotr G @Solaris)
- Added support for QWebEngine





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Tango issues affecting Taurus

- Issue unsubscribing events without a DB [cppTango/843]. **Fix available**
- Unsubscribe in push_event leads to API_EventTimeout [cppTango/686]. **Fixed in 9.4**
- Event-subscribed client segfaults if events cannot reach it [pyTango/371]. **Open**
- Calling unsubscribe_event in __del__ with reference cycles [pyTango/413]. **Open**
- Delete_device() not called when interrupting the DS with CTRL+C [pyTango/415]. **Open**
- Tango for **Windows** on conda-forge [conda-forge/cpptango-feedstock/4]. **WIP**

Thanks to: Thomas B @Byte physics, Reynald B @ESRF, Alberto L @ALBA, Benjamin B @MAX-IV



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Guess what?

Guess what?

Issues · taurus-org / taurus · x +

← → ↺ 🏠 🔒 gitlab.com/taurus-org/taurus/-/issues?label_name%5B%5D=help+... ☆ Incognito

Menu 🔍 ⓘ ⌵ Sign in / Register

🔔 📅 📁 New issue

Open 7 Closed 7 All 14

Recent searches ▾ Label = ~"help wanted" ✕

Last updated ▾ ⌵

- Change TANGO_HOST in Taurus Device Tree for external devices in expconf
#126 · created 6 years ago by AdminBot enhancement help wanted sourceforge updated 2 weeks ago 8
- taurusform config is reset when changing models
#70 · created 7 years ago by AdminBot bug help wanted sourceforge updated 5 months ago 5
- TaurusForm width cannot be reduced if displaying a long text (trimming not triggered)
#1142 · created 1 year ago by Carlos Pascual bug help wanted updated 1 year ago 2
- Supporting "commands" in Taurus
#1020 · created 1 year ago by Carlos Pascual enhancement help wanted updated 1 year ago 4
- Implement an examples GUI (similar to pyqtgraph's)
#924 · created 2 years ago by Carlos Pascual enhancement help wanted updated 2 years ago 0

