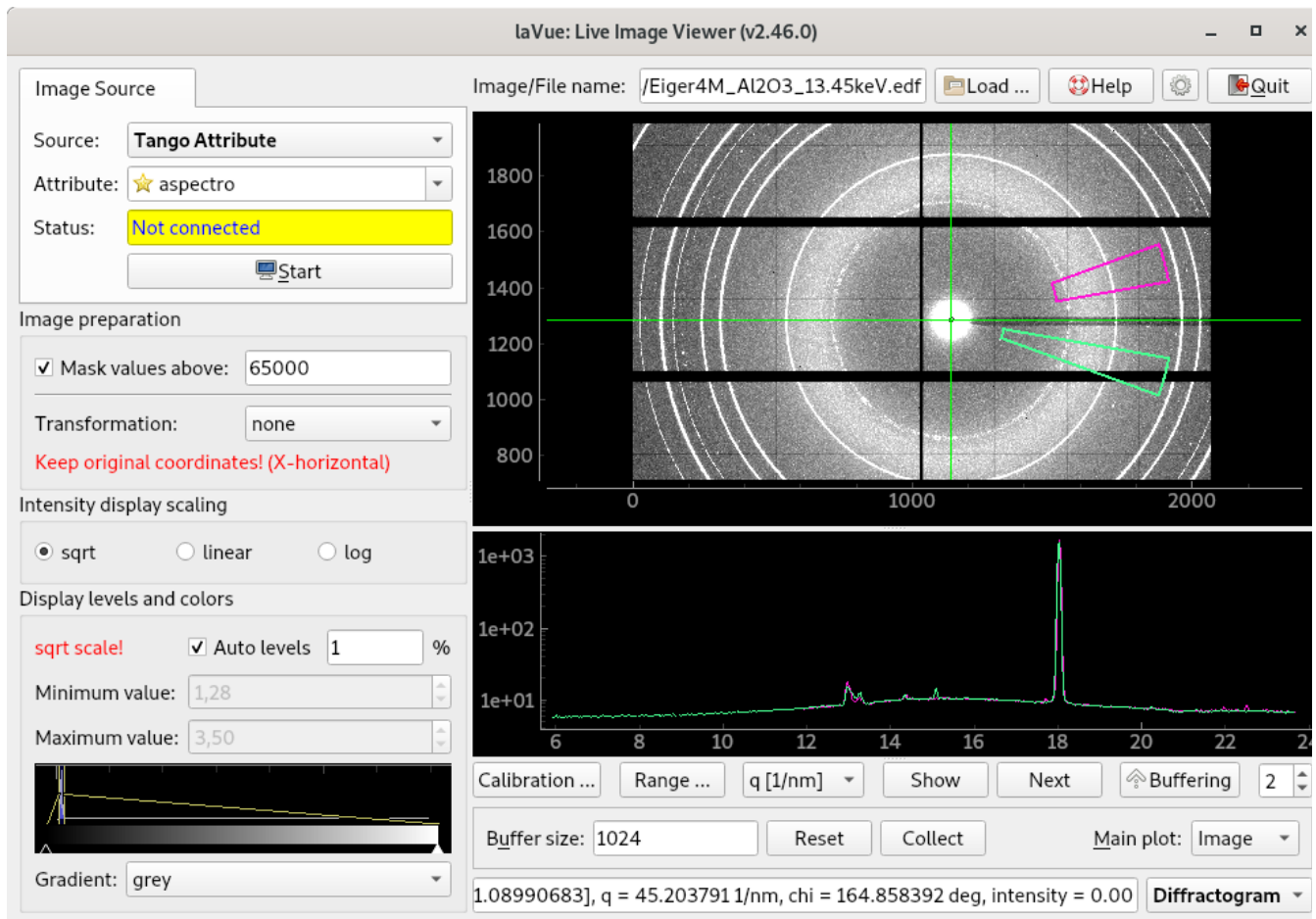


LaVue - Diffractogram Tool

Diffractogram shows a result of azimuth integration on 1d plot



- **Calibration** loads pyFAI calibration files, e.g. in PONI format
- **Range** defines the integration ranges
- combobox with **Units** sets x-axis units of the 1d diffractogram plot
- **Show/Stop** - switches on/off continuous mode of diffractogram update with each image
- **Next** - (re-)computes a diffractogram for the current image
- combobox with a **Number** of diffractograms corresponding to different ranges

Ranges and 1d plots **colors** can be changed in the lavue Configuration by setting **Ranges and ROIs Colors** .

Also in the Configuration the user can change

- **Diffractogram size**: number of points in the diffractogram
- **Correct Solid Angle**: correct solid angle flag for diffractogram

A contour plot of diffractograms (collected in time) can be created with use of the **Buffering** widget

- **Buffer size**: maximal number of diffractograms in the heat-map plot
- **Reset**: reset the diffractogram buffer
- **Collect/Stop**: start or stop collect diffractograms in the buffer
- **Main plot**: select 2D-plot i.e. **Image** shows the original image, **Buffer <?>** shows a buffer for the <?> diffractogram range

The **configuration** of the tool can be set with a JSON dictionary passed in the `--tool-configuration` option in command line or a `toolconfig` variable of `LavueController.LavueState` with the following keys:

```
calibration (string), diff_number (integer), diff_ranges ([azimuth_start, azimuth_end, radial_start, radial_end] for each diffractogram i. e. lists of four floats), diff_units ("q [1/nm]", "q [1/Å]", "2th [deg]", "2th [rad]", "r [mm]", "r [pixel]" string), buffer_size (integer), buffering (boolean), collect (boolean), show_diff (boolean), main_plot (image, buffer 1, buffer 2, buffer 3 or buffer 4 string)
```

e.g.

```
lavue -u diffractogram -s test --tool-configuration \{"calibration\":"test/images/eiger4n_al203_13.45kev.poni",\ "diff_number\:":2,\ "diff_ranges\":[[10,20,0,10],[-5,5,5,15]],\ "diff_units\":"r [mm]",\ "buffering\":true,\ "buffer_size\:":512\} --start
```

